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1911.



City and County of Bristol.

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# ANNUAL REPORT

OF THE

## *Medical Officer of Health.*

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SPECIAL REPORT ON "TYPHOID FEVER."  
SPECIAL REPORT ON "DISEASE CARRIERS."

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Printed by order of the Health Committee.

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BRISTOL:  
BENNETT BROTHERS, LTD., PRINTERS, COUNTERSLIP.

1912.







MEDICAL RESEARCH COUNCIL

LICEN<sup>S</sup>ARY

No. 22435

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## HEALTH COMMITTEE.

1911.

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*The Right Honourable The Lord Mayor:*

SIR FRANK WILLIAM WILLS.

*Chairman:*

Councillor COLSTON WINTLE, M.R.C.S.

*Deputy Chairman:*

Councillor FRANK MOORE.

Alderman TERRETT.

Councillor JOB AMOS

„ HENRY ANSTEY.

(*Chairman of Finance Sub-Committee*).

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„ G. THOMPSON.

„ C. J. THORNE.

„ G. S. WILLMOTT.

# CITY OF BRISTOL.

## HEALTH DEPARTMENT, 1911.

*Medical Officer of Health*: D. S. DAVIES, M.D., D.P.H.

*Chief Inspector*: J. W. KIRLEY.

*Superintendent Inspector*: †\*T. LOWTHER.

### District Inspectors (12):

	District.	District.
G. E. BUSHI	(Bedminster W.)	*†T. J. CROFTS (S. Philip)
*H. HASELL	(Horfield)	*F. KIRLEY (Stapleton and
*J. WILKINSON	(Clifton)	S. George N.W.)
*H. J. KIRLEY	(Cotham)	*†§ A. W. GRIFFITHS (Avonmouth)
*J. T. LYONS	(S. Geo. E.)	*G. BEST (Westbury-on-Trym)
*†F. R. SLADE	(S. Paul)	*E. J. BURR (S. George S.W.
*†A. E. KING	(Knowle and Bedminster E.)	and Redcliff)

*Inspector of Common Lodging Houses and Bakehouses*:

\*S. O. DIMOND.

*Inspector of Dairies, Cowsheds, and Milkshops*:

\*†H. C. LEAT.

*Inspectors of Slaughter Houses, Meat, and Fish*:

S. THOMAS.

\*§A. GITSIAM.

*Inspector of Workshops, &c.*: \*W. J. WREFORD.

*Inspector of Tenement Houses*: \*†J. B. PASKE.

*Chief Clerk*: L. W. A. STATTON.

*Statistical Clerk*: W. N. BROWN.

### Clerks:

C. W. M. VINCENT, L. P. WILSON, E. E. MASTERS,  
J. G. WATSON, C. BRYANT.

## CITY HOSPITALS.

*General Medical Superintendent*: (Supervisory) D. S. DAVIES, M.D., D.P.H.

*Visiting Medical Officer at Novers Hill Hospital*:

G. C. PAULI, M.R.C.S.

*Resident Medical Officer at Ham Green Hospital*:

B. A. I. PETERS, B.A., B.C., M.B., D.P.H.

## PORT OF BRISTOL.

*Port Medical Officer of Health*:

D. S. DAVIES, M.D., D.P.H.

*Assistant Port M.O.H.*: J. C. HEAVEN, M.R.C.S., D.P.H.

*Chief Port Inspector*: S. O. DIMOND.

*Port Inspector*: A. DICKENS.

*Assistant Port Inspector and Boatman*: J. REX.

*Inspector of Foods*: \*||J. A. ROBINSON.

*Master of S.S. "Luath"*: § M. BIDDLE.

‡ Surveyor's Certificate, Sanitary Institute.

• Inspector's Certificate, Sanitary Institute.

† Registered Plumber.

§ Meat Certificate, Sanitary Institute.

|| London Inspector's Examining Board Certificate.

|| Meat Certificate, Sanitary Institute.

|| Meat Certificate, Liverpool University.

PUBLIC HEALTH OFFICES,  
40 PRINCE STREET, BRISTOL.  
July, 1912.

MY LORD MAYOR AND GENTLEMEN,

In the Report for 1911, the account given by Dr. Peters of the outbreak of Typhoid Fever in St. James', merits attention as an example of the immediate success of measures framed on the known habits of a particular disease. Dr. Peters' notes on the Bed-Isolation system adopted at Ham Green record the inauguration of an eminently practical, useful, and economical system.

In regard to the good work already done and that in contemplation for dealing with Tuberculosis, it is to be hoped that the enthusiasm proper to this end may not obscure the deficiencies in the present Isolation Hospital accommodation of the City, the amendment of which has been too long delayed.

The progressively later appearance of the Annual Reports year by year is the natural resultant of a disproportionate increase of work over means, which will not be lessened by the large amount of new work necessitated by the provisions of the National Insurance Act.

I am, My Lord Mayor and Gentlemen,  
Your obedient servant,  
D. S. DAVIES, M.D.,  
Medical Officer of Health.



# REPORT

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## **PART I.**

### **Population and Acreage.**

The estimated population of the City at the middle of 1911 was 357,509 persons, upon an area of 17,289 acres.

Table A. \*\*

Showing Population, Acreage, and number of Persons per Acre  
(Density) in each of the Registration Sub-Districts of Bristol  
for 1891 compared with the same data for 1911.

Registration Sub-Districts, 1891. (Census Year)	Acreage	Population middle of 1891.	Density, 1891.	Registration Sub-District, 1911. (Census Year).	+Acreage	Popula- tion Census 1911.	Density 1911.
S. Mary Redcliff ...	170	9,287	54·6				
Castle Precincts ...	119	5,558	46·7				
S. Paul ... ...	148	19,046	128·6	S. Mary Redcliff (Including Castle Precincts, and part of S. Paul). } S. Paul and S. Augustine } Bristol Central. } 	**810	**38,485	**47·5
S. James ... ...	68	7,817	114·9				
S. Augustine ...	250	13,788	55·1				
Bedminster ...	992	45,812	46·1	Bedminster, Knowle, etc. ... (Including Somerset added area )	**1,924 1,184	**81,326	**26·1
Clifton ... ...	921	29,361	31·8	Clifton ... ...	**1,504	**42,466	**28·2
Ashley ... ...	434	24,190	55·7	Ashley ... ...	**1,365	**47,378	**34·7
Westbury ... ...	692	15,540	22·4				
S. Philip ... ...	744	51,650	69·6	S. George ... ... S. Philip ... ... Stapleton ... ... Westbury-on-Trym (Including the whole of Avonmouth, Shirehampton, Westbury-on-Trym, and part of Henbury, added to City from Barton Regis Rural District, 1st October, 1904.)	**1,846 **736 2,573 5,347	**58,478 **50,215 26,149 12,562	**31·6 **68·2 10·1 2·8
Bristol City (1891)	4,538*	222,049	48·93	Bristol City (1911)	**17,289	**357,059	**20·65

\* Ordnance calculation, including water areas.

† Census, 1901, and including district added on 1st October, 1904. The acreage is not adjusted for the alterations made in the Registration Sub-Districts in April, 1909.

‡ The Registrar General of Births, Deaths and Marriages, ordered and declared, that on and after 1st April, 1904, S. Augustine Sub-District shall be united with S. Paul Sub-District, and the enlarged Sub-District so formed, shall be called and known as S. Paul and S. Augustine Sub-District.

|| The Registrar General of Births, Deaths and Marriages, ordered and declared, that on and after 1st December, 1905, the S. Mary Redcliff Sub-District shall be united with S. Paul and S. Augustine Sub-District, the enlarged Sub-District to be called and known as Bristol Central Sub-District.

\*\* Considerable alterations were again made in the Registration Sub-Districts in April, 1909. (See next page); and the acreage has not been adjusted, therefore the density column in Table A is not comparable with former years.

### Changes in Registration Districts and Sub-districts.

Changes in Registration boundaries are made by order of the Registrar General with the consent of the Local Government Board. Those changes which affect the boundaries of Registration Districts are necessitated by changes in the boundaries of Poor Law Unions.

The following summary shows the changes made in the Bristol District, on April 1st, 1909, and is taken from the Quarterly Return of Births and Deaths of the Registrar General, dated 26th July, 1909.

The figures in the present Annual Report are based upon the revised figures relating to the newly constituted areas. These will, of course, not be accurately comparable with the figures for the Sub-Registration Districts of previous years.

### 1909.

1 Apr. (320)—BRISTOL : on this date the Sub-Districts of Bristol were re-arranged and are now constituted as follows :—

Clifton .. .	1.	Clifton North Ward ..	8,649
		Clifton South Ward ..	8,344
		St. Michael Ward ..	11,769
		St. Augustine Ward ..	17,683
Bristol Central .. .	2.	St. Paul Ward ..	17,966
		St. James Ward ..	11,268
		Central East Ward ..	6,023
		Central West Ward ..	1,726
		Redcliff Ward ..	8,679
Bedminster .. .	3.	Bedminster East Ward	18,739
		Bedminster West Ward	19,406
		Southville Ward ..	18,814
Knowle .. .	4.	Somerset Ward ..	12,645

St. George ..	5.	St. George East Ward	20,655
		St. George West Ward	21,913
		Easton Ward (part of, viz., No. 2 Polling Dis- trict) .. .. ..	11,061
St. Philip & Jacob ..	6.	St. Philip and St. Jacob North Ward .. ..	20,466
		St. Philip and St. Jacob South Ward .. ..	20,691
		Easton Ward (part of, viz., No. 1 Polling Dis- trict) .. .. ..	10,068
Stapleton ..	7.	Stapleton Ward ..	21,236
Ashley .. ..	8.	Horfield Ward ..	13,975
		The District Ward ..	18,047
		Redland Ward ..	9,768
Westbury-on-Trym ..	9.	Westbury-on-Trym Ward	9,451

## CENSUS RESULTS—1911.

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We are enabled to supplement the statistics already published with regard to the population of Bristol, as shown at the 1911 census, by the returns for the several registration sub-districts into which the City is divided. These are interesting as showing the parts of the City in which there have been increases or decreases of population as compared with the census of 1901. As already stated the total population in the registration district of Bristol at the 1911 census was 357,059 as compared with 339,042 in 1901, an increase of 18,017.

### The Sub-Districts.

The comparative figures for the nine registration sub-districts, as given in the preliminary report of the Registrar-General, are as follow :—

		1901.	1911.	Inc.	Dec.
Clifton ..	..	46,445	42,466	—	3,979
Bristol Central	..	45,662	38,485	—	7,177
Bedminster ..	..	56,959	61,176	4,217	—
Knowle ..	..	12,645	20,150	7,505	—
St. George ..	..	53,629	58,478	4,849	—
St. Philip & St. Jacob		51,225	50,215	—	1,010
Stapleton ..	..	21,236	26,149	4,913	—
Ashley ..	..	41,790	47,378	5,588	—
Westbury-on-Trym ..		9,451	12,562	3,111	—
 Totals ..		<hr/> 339,042	<hr/> 357,059	<hr/> 30,183	<hr/> 12,166

### Change since 1901 Census.

It is necessary to explain that in some cases the changes are accounted for by alterations effected in the areas of the sub-districts between 1910 and 1911. St. Augustine's has been taken away from Bristol Central and added to Clifton, the Redland Ward has been transferred from

Clifton and added to the Ashley sub-district, and St. James and St. Paul have been taken out of the Ashley district and added to the Central. These are some of the changes made. But so far as Knowle, Bedminster, St. George, and Stapleton are concerned, the increases are genuine, and show that during the past ten years there have been considerable developments in those portions of the City. We have not the figures as to the sexes, but we understand that the female population of the City is largely in excess of the male.

#### **How the Sub-Districts are Constituted.**

An explanation as to the constitution of the sub-districts may be added. In the Clifton sub-district are comprised the municipal wards of Clifton North and South, and St. Michael and St. Augustine ; Bristol Central is made up of the wards of St. Paul, St. James, Central East, Central West, and Redcliff ; Bedminster consists of Bedminster East and West and Southville Wards ; Knowle of the Somerset Ward ; St. George of St. George's East and West and No. 2 polling district of Easton Ward ; St. Philip and Jacob of St. Philip and Jacob North and South Wards, and No. 1 polling district of Easton Ward ; Ashley of the Horfield District, and Redland Wards ; Stapleton of the Stapleton Ward ; and Westbury-on-Trym of the municipal ward bearing that name.

## GENERAL AND VITAL STATISTICS.

### Population.

	Area in Acres	Population (Estimated)	Rateable Value
City of Bristol, 1897	4,661	232,242	£1,153,311
Additions of 1897	6,756	85,800	£246,815
Additions of 1904	5,347	13,443	£69,560
City of Bristol, 1910	17,004	357,509	£1,847,499

This table shows that the City covers not quite four times the acreage which it covered in 1897, and is more populous by 125,267 persons. The City Medical Officer of Health has inherited the duties and responsibilities of the Medical Officers of Health of this added City ; considerable economy has thus been effected in the medical administration, as the salaries of the various medical officers have lapsed.

There is no salaried Assistant Medical Officer to help in either City or Port work, but the occasional Medical assistance, required in emergency, is paid for by fees for work done. The various extensions have resulted in the displacement of five part-time Medical Officers of Health, whose districts have been absorbed.

The additional work thus devolving on the Medical Officer of Health includes :—

**City.**—In 1897 the area of the City was increased by 6,756 acres, and the population by 85,800 persons.

In 1904, the area was further increased by an addition of 5,347 acres, and the population by 13,443.

The districts included three Local Board Districts, each in charge of a part-time Medical Officer of Health, and parts of two Rural areas.

**Port.**—In 1897 responsibility for the Gloucester Port work, under the Cholera, Plague and Yellow Fever Regulations, was imposed by special order upon the Bristol Port Medical Officer of Health.

In 1907, the Public Health (Regulations as to Food) Act imposed all responsibility for the inspection of Imported Food for the whole Port of Bristol upon the Port Medical Officer of Health. This had hitherto been carried out only in Ports under a whole time Port Medical Officer of Health.

No salaries are assigned for any of the above added duties.

### **Births.**

The births registered in Bristol in 1911 were 7,749, of which 295 were returned as illegitimate, a percentage of 3·8.

The birth-rate for the year was 21·0 a decrease on the rate of last year, which was 21·5; the rate has since 1882 shown an almost continuous decrease. (Table B). The rate for the 77 great towns in 1911 is 25·6.

The excess of births over deaths during the year 1911 (*natural increase of population*) is 2,214.

### **Marriages.**

2,763 marriages took place within the borough of Bristol during 1911, compared with 2,670 in the years 1909 and 1910. The annual marriage rate per 1,000 is thus 7·6 compared with 6·9 in 1909 and 1910.

### **Deaths.**

5,537 deaths were registered in the district during the 52 weeks ending the 30th December, 1911, of which 99 or 1·7 per cent. were returned as deaths of illegitimate children. The recorded general death rate for the year,

uneorrected for age and sex distribution is 15·48 per 1,000 living, compared with a rate of 11·82 for the year 1910. The death rate reecorded for the 77 great towns in 1911 is 15·5.

### Infant Mortality.

Of the 5,537 deaths, 1,107 were of infants under one year. The proportion of these deaths to every 1,000 births (infant mortality) was 142·8, compared with a rate of 90·3 for the year 1910, 101·0 for the year 1909, 125·8 for the year 1908, 100·9 for the year 1907, 127·6 for the year 1906, 122·4 for the year 1905, and 133·7 for 1904. The rate reecorded in the 77 great towns in 1911 is 140.

The Infant Mortality rate varied thus :—

St. Philip .. .. ..	164·4
Bristol Central .. .. ..	162·6
St. George .. .. ..	152·0
Bedminster .. .. ..	143·1
Stapleton .. .. ..	128·0
Clifton .. .. ..	118·7
Knowle .. .. ..	102·9
Ashley .. .. ..	99·8
Westbury-on-Trym .. ..	69·2

In Table B. will be seen the annual infantile mortality rates in Bristol for the past 25 years.

The highest rates were reecorded in St. Philip, Bristol Central (Castle Preeinets, St. Mary Redeliff, St. Paul, St. James, St. Augustine), St. George and Bedminster.

The unusual and prolonged summer and autumn heat in 1911, produced the normal effect of an increase in autumnal Diarrhoea and consequently in the rate of infant mortality.

The Health Committee has appointed two Health Visitors, and the Notification of Births Act was adopted on 12th December, 1912.

## BRISTOL SCHOOL FOR MOTHERS.

On November 5th, 1909, a Committee of Ladies, comprising Dr. A. Cornall, Mrs. S. H. Badock, Miss Constance Densham, Miss M. Fry, Miss L. Miles, Miss E. Sturge, Miss Townsend, Mrs. H. C. Trapnell, and Mrs. Mark Whitwill (hon. sec.), opened the School for Mothers in the Broad Plain, Bristol ; and Miss Townsend has kindly furnished me with the following report of their work.

The Bristol School for Mothers, Broad Plain, St. Philip's, has now been open about two years, during that time the attendance has steadily increased.

The Bristol School for Mothers has continued its work during the past year. Since its opening in November, 1909, over 200 women have passed through the School, and a corresponding number of infants have been supervised up to—and in some cases beyond—the age of one year.

Infant consultations are held weekly ; regular courses of instruction are given in Infant-care, Household Management, Hygiene of the Home, Garment-making and repairing. "Maternity" classes have also been held for expectant mothers, the lectures being given by medical women or trained nurses.

It is not possible to tabulate definite results of the above work. Dr. Cornall reports that the general standard of health of both mothers and infants has much improved. During the great heat of the summer of 1911, when the rate of infant mortality in Bristol was much above the average, many of the babies under our supervision suffered from infantile diarrhoea but only one died, and even in this case death was not solely due to the prevalent summer disease. This preservation of infant life entailed most careful feeding and tending of their babies on the part of the mothers, and is—we believe—a fairly conclusive proof that the latter are profiting from the instruction given them at the School.

(Signed) F. M. TOWNSEND.

**Seven Chief Epidemic Diseases.  
(Zymotics).**

The rate of mortality from the Seven Chief Epidemic Diseases, viz. : Small-pox, Measles, Scarlet Fever, Whooping Cough, Diphtheria, Fever (Typhus, Enteric Fever, and Simple Continued Fever or Pyrexia) and Diarrhoea was in 1911 2·20 per 1,000 living, compared with a rate of 0·6 in 1910, 0·9 in 1909, 1·2 in 1908, 0·8 in 1907, 1·6 in 1906, 1905 and 1904, and 1·1 in 1903.

**Annual Rates per 1,000 living. 1911.**

	Births	Deaths	Smallpox	Measles	Scarlet Fever	Diphtheria	Whooping Cough	Enteric Fever	Diarrhoea	Deaths under one year to 1,000 Births
England and Wales	24·4	14·6	0·00	0·36	0·05	0·13	0·21	0·07	1·06	130
77 Great Towns	25·6	15·5	0·00	0·47	0·06	0·15	0·24	0·06	1·31	140
136 Smaller Towns	23·4	13·8	0·00	0·41	0·06	0·12	0·18	0·07	1·14	133
England and Wales less the 213 Towns	23·4	13·9	0·00	0·22	0·04	0·11	0·19	0·07	0·77	118

**Mortality at Ages between 5 and 65.**

2,194 deaths were returned at these ages.

**Mortality amongst Aged People.**

1,678 deaths of persons aged 65 and upwards were registered, whose ages averaged 75 years and 5 months.

## PREVALENCE OF SICKNESS IN 1911.

## Small-pox.

The prevalence and fatality of this disease is here shown for the past 26 years :—

## SMALL-POX.

Year.	Cases Notified.	Attacks per 100,000 Living.	Deaths.	Deaths per 100,000 Living.	Case Mortality per cent.
1886	?	?	8	3	?
1887	163	72	13	5	7·9
1888	224	98	26	11	11·6
1889	0	—	0	—	—
1890*	0	—	0	—	—
1891	16	7	1	0·4	6·2
1892	0	—	0	—	—
1893	165	73	20	8	12·1
1894	201	88	16	7	7·9
1895	4	1	0	—	—
1896	42	18	5	2	11·9
1897	10	4	1	0·4	10
1898†	2	0·6	0	—	—
1899	0	—	0	—	—
1900	0	—	0	—	—
1901	1	0·3	0	—	—
1902	4	1	2	0·6	50
1903	46	14	3	0·8	6·5
1904‡	34	9	1	0·2	2·9
1905	13	3	0	—	—
1906	32	8	0	—	—
1907	6§	1·6	1	0·2	16·6
1908	1	0·2	0	—	—
1909	39††	10	9	2	23·0
1910	4**	1	0	—	—
1911	0	—	0	—	—

\* Compulsory Notification began. † City Extended.

‡ City again Extended in 1904. § Including one Port case.

†† This total of 39 includes 35 cases in the City actually notified, (one being an Officer of the Cossham Hospital, who lived in the County but formed one of the Cossham group); and there were three abortive cases, and one unrecognised case in the east Bedminster group which were not notified. The unrecognised first case in the Cossham outbreak admitted from the Chipping Sodbury Rural District to Cossham Hospital is not included amongst the City cases.

\*\* Including Two Port Cases.

**Small-pox—1911.**

No case of Small-pox was reported in the City during the year 1911.

**Scarlet Fever or Scarlatina.**

During the year 1911, 953 cases of Scarlet Fever were notified, and 16 deaths occurred, giving a case mortality of 1·6 per cent.

The prevalence of, and fatality from, this disease for the past twenty-two years, that is to say, since notification commenced, is shown here. Columns 2 and 4 should be used in comparing different years, as they are adjusted for the varying populations.

## SCARLET FEVER.

Year.	1 Cases Notified.	2 Attacks per 100,000 Living.	3 Deaths.	4 Deaths per 100,000 Living.	5 Case Mortality per Cent.
1890	559 <sup>*2</sup>	253	40	18	7·1
1891	888	400	37	17	4·1
1892	1,442	644	47	21	3·2
1893	1,245	553	35	16	2·8
1894	485	214	16	7	3·2
1895	562	252	16	7	2·8
1896	1,352	586	59	21	4·3
1897	511	220	18	7	3·5
1898*	382	120	14	4	3·6
1899	697	217	13	4	1·8
1900	1,971	606	39	12	1·9
1901	2,206	670	36	10	1·6
1902	2,724	793	66	19	2·4
1903	2,168	639	49	11	2·2
1904§	1,258	366	36	10	2·8
1905	1,085	302	39	10	3·5
1906	1,019	280	27	7	2·6
1907	886	240	26	7	2·6
1908	486	127	10	2	2·0
1909	692	183	12	3	1·7
1910	1,216	317	12	3	0·9
1911	953	266	16	4	1·6

\* City Extended. § The City was further Extended in 1904.

\*- Notification commenced on February 12th, 1890, so that the case mortality for this year is probably overstated.

The type of disease has again been mild, and the mortality is the lowest, excepting that for the years 1908, 1909, 1910, recorded over a long series of years.

The distribution of attacks by age is shown below :—

0-1	1-5	5-15	15-25	25+	Total.
3	203	675	56	16	953

The distribution of the disease in each quarter of the year is shown in the following table for each Registration Sub-district of the City :—

#### SCARLET FEVER.

REGISTRATION Sub-District.	CASES NOTIFIED.				Year, 1911	Attack Rate per 100,000 Living
	1st Qr.	2nd Qr.	3rd Qr.	4th Qr.		
Ashley ... ...	56	79	18	80	233	491
Bedminster ... ...	38	15	16	21	90	147
Bristol Central ... ...	33	36	18	10	97	252
Clifton ... ...	16	21	9	18	64	150
Knowle ... ...	7	10	1	10	28	138
S. George ... ...	60	29	38	30	157	268
S. Philip ... ...	35	15	20	17	87	173
Stapleton ... ...	21	13	24	91	149	569
Westbury-on-Trym ...	6	—	4	6	16	127
Public Institutions ..	4	11	3	2	20	—
Not belonging to City ...	4	4	2	2	12	—
Total ... ...	280	233	153	287	953	266

The attack rate per 100,000 population was lowest in Westbury-on-Trym, Knowle and Bedminster, and highest in Stapleton and Ashley.

Isolation in Scarlet Fever at a public Hospital is not needed for the children of persons in good circumstances, who will indeed do as well or better at home, but Hospitals have their use in securing isolation in cases which cannot possibly receive adequate attention at home.

The prevalence of Scarlet Fever bears no relation to the "Sanitary" condition of the district, it is a contact-spread disease, and is largely kept alive by mild cases which may be unrecognised ("missed cases"—"carriers") The influence of infected clothing and infected premises in this disease has probably been over-estimated, while the influence of "personal" infection has been much under-estimated. Schools may have considerable influence in the spread of Scarlet Fever, but this is minimised by the strict watch kept upon the notification returns in connection with school attendance.

The difference in the fatality of Scarlet Fever forty years ago and now is quite remarkable. For instance, in 1863 and the following year over 1,100 deaths occurred from this disease. In 1869 and 1870 over 900 deaths occurred, in 1875 and 1876 over 700, and in 1880 and 1881 nearly 400. In 1886 and 1887, 300 deaths occurred. The next epidemic was in 1896, when 59 deaths resulted. In 1900 a larger epidemic caused only 39 deaths, in 1901 a still greater prevalence of the disease resulted in only 36 deaths, while in 1902 the deaths rose to 66. The population in 1911 was 357,509 compared with 158,000 in 1863: if there had been a similar loss in regard to population as there was in the epidemic of 1863, the number of deaths in 1911 would have reached 2,500 instead of being only 16.

The type of disease, judged by the case mortality, is much milder now than it was 40 years ago, hence it is argued that we may revert to the fatal epidemics which

were then experienced. But the favourable alteration in type is probably, in large part, a result, not of general "sanitary" improvement, but of the development of that part of Public Health work which secures removal and care in Hospital for those patients who, if kept at home amongst large families in small houses, would, by accumulation of infection, lead to septic and fatal forms of the disease. It is in this, I believe, that much of the value of a judicious use of isolation hospitals consists; for in large cities it is not to be expected that hospital isolation can succeed in blotting out a disease which is perennially kept going by personal infection through undiscovered cases. It is noteworthy that the improvement in the fatality returns has been maintained in spite of the unfavourable factor in recent years of increasing school attendance.

The view may be advanced, too, that, in comparison with races that have not been subjected to selection by the constant presence of the Scarlet Fever organism in the environment, we have acquired, as a race, a very high resisting power; short of complete immunity, but so marked that the small mortality caused by individuals succumbing in the process of acquiring immunity does not materially affect the race.

Complete immunity may never be attained, for, as individuals must always vary, some will inherit less capacity for acquiring immunity, and so there will remain some mortality as long as the selection, that is, so long as the disease continues, in order to eliminate unfavourable variations.\*

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\* Cf.—"Hereditary characters and their modes of transmission."  
C. E. WALKER (ED. ARNOLD, 1910).

### Scarlet Fever—1911.

Some schools were implicated in the spread of infection. These were specially visited and suspicious cases excluded ; the school rooms were also cleansed and disinfected. The evidence as to much school infection was not conclusive but a careful watch was kept upon the school notifications.

Contact infection amongst associated children at home was probably chiefly responsible for the spread of infection, coupled with a type of disease leading to "missed" cases, which readily carry and distribute infection. In several cases medical aid was not called in until the children were found to be peeling freely, and these children had, in some cases, been attending school.

From November, 1910, until December, 1911, Scarlet Fever proved troublesome at the Ashley Down Orphan Houses, specially in No. 5 House. From January to March, 1911, it was found impossible to provide the necessary isolation accommodation at Ham Green Hospital, owing to an intercurrent cross infection of Diphtheria with Scarlet Fever, which blocked the observation wards, and this no doubt contributed to the difficulty in dealing effectually with the outbreak, which, however, dropped within reasonable limits after May, 1911. Houses No. 4, 2 and 1 were affected in a minor degree.

### Scarlet Fever, 1911—School Incidence.

On 15th September a medical examination was made of the scholars attending and absentees from the infected class in the infants' department of St. Barnabas School ; five cases having been notified since 4th September.

One of the scholars had been home for the previous week—stated by mother to be suffering from "nettle rash"—and was taken ill on 4th September—no medical man in attendance. This child was found on examination to be suffering from Scarlet Fever, and was removed to

Ham Green Hospital on 16th September. Another scholar showed slightly suspicious signs of "pinholes" on hand : the mother stated that on August 28th and 29th he was feverish, with sick headache—no complaint of sore throat. The boy was seen by a doctor and returned to school on August 30th. On examination the condition of boy's hands would correspond with the possibility of Scarlet Fever on that date.

Another scholar showed suspicion of rough skin on fist, but no confirmatory evidence could be given by parents.

Four other scholars had had "sore noses" but on enquiry at their homes no history of any suspicious illness could be obtained. Another scholar was found on examination to have a very suspicious rhinitis, but no evidence could be obtained of illness. A swab was taken from this child's nose, and upon bacteriological examination Diphtheritic organisms were found to be present and the child was removed to Ham Green Hospital. The remaining children in the class (40 in all) showed no evidence suggesting recent or old Scarlet Fever. The outbreak terminated upon the action indicated.

From October 1st to October 13th six cases of Scarlet Fever were notified among scholars attending Sefton Park School, and a medical examination of the scholars in the affected classes was made on 24th October, and from the information obtained the occurrence seemed to be probably "home" not "school" spread infection.

A further medical inspection was made on 14th November, eight cases having been reported between 24th October and 9th November, and 78 children in two affected classes were examined, but no special reason was found to suspect any children attending, or any absentees, from these classes.

No further trouble resulted.

### Enteric Fever (Typhoid Fever).

During the year 1911, 148 cases of Enteric Fever were notified, and 18 deaths occurred, giving a case mortality of 12 per cent.

The prevalence and fatality from this disease for twenty-two years past is here shown :—

#### ENTERIC FEVER.

1	2	3	4	5
Years.	Cases Notified.	Attacks per 100,000 Living.	Deaths.	Deaths per 100,000 Living
1890**	122	55	33	14
1891	116	52	23	10
1892	135	60	18	8
1893	122	54	26	11
1894	90	39	21	10
1895	89	39	22	9
1896	110	47	20	8
1897	343	147†	47	20
1898*	113	35	26	8
1899	219	68	35	10
1900	293	90	44	13
1901	281	85	40	12
1902	319	93	58	17
1903	134	39	21	6
1904‡	172	50	26	7
1905	76	21	13	8
1906	120	33	21	5
1907	74	20	15	4
1908	103	27	10	2
1909	66	17	12	3
1910	85	22	9	2
1911	148	41	18	5

\* Extended City † Milk Outbreak introduced from the County.

\*\* Notification commenced February 12th, 1890, so that the case mortality for this year is probably overstated. ‡ City again extended in 1904.

No estimate can be made as to the number of cases occurring before 1890, the high figures of 1897 are due to the introduced milk outbreak of that year. In 1897 the City, containing 232,242 people, was extended, and in 1904 contained 343,204 persons, an increase of 110,962 persons. In 1904, a further extension was made. Allowance in columns 2 and 4 is made for the increase of population year by year, and the figures in these columns should be used for comparison. The attack rate fell very considerably in 1903 and 1904 from the high rate of 1902, and the death-rates (Col. 4) for the years 1903 and 1904 were the lowest recorded up to then.

In 1908 the attack rate rose slightly compared with that of 1907, but the number of deaths, the death rate and the case mortality per cent. are the lowest then recorded.

In 1909 the attack rate was the lowest recorded since Notification began in 1890, but the number of deaths and the death rate rose slightly compared with 1908. The rise in case mortality to 18 per cent. suggests that the type of infection was more severe than in 1908.

In 1910 the attack rate was higher than in 1909, but was lower than in any year except 1909, 1907 and 1905, the death rate was, however, the lowest rate recorded, and the case mortality per cent. was the lowest recorded with the exception of the year 1908.

In 1911 the attack rate was the highest recorded since 1904, owing to the outbreak in St. James, of which a full report appears later, the death rate was the highest recorded since 1906. The case mortality per cent. is the lowest recorded with the exception of the years 1908 and 1910.

The distribution of the disease in each quarter of the year is shown in the following table, for each Registration Sub-district of the City. The Sub-districts most affected

are seen to be Bristol Central, Clifton, St. George, and Ashley. No cases were reported during the year in the Stapleton and Westbury-on-Trym Registration Sub-districts.

REGISTRATION. Sub-District.	CASES NOTIFIED.				Year 1911.	Attack Rate per 100,000 living.
	1st Qr.	2nd Qr.	3rd Qr.	4th Qr.		
Ashley ... ... ...	2	—	6	2	10	21
Bedminster ... ...	2	—	4	5	11	17
Bristol Central ... ...	—	3	62	8	73	189
Clifton ... ... ...	1	2	8	3	14	32
Knowle ... ... ...	—	—	1	1	2	9
S. George ... ... ...	4	2	8	—	14	23
S. Philip ... ... ...	1	3	3	2	9	17
Stapleton ... ... ...	—	—	—	—	—	—
Westbury-on-Trym ..	—	—	—	—	—	—
Municipal Institutions ...	6	—	—	2	8	—
Not belonging to City ...	—	—	3	4	7	—
Total ...	16	10	95	27	148	41

Enteric Fever is admitted for treatment into the Public Institutions, and 132 cases (5 from outside the City) were nursed in the Royal Infirmary, General Hospital, Ham Green Hospital, Children's Hospital, and Stapleton Workhouse, through the year. With the exception of 12 cases nursed at Clift House in 1897, no provision had been made for this disease in the City Hospitals before July, 1899, and cases, if not admitted to the general Hospitals, had to remain at home. There is still insufficient general isolation accommodation to meet any emergency, and this insufficiency has been considerably accentuated by the extension of the City and the consequent great increase in population, as well as by the undertaking to provide for the Guardians' cases, and by the closing (July, 1906) of Clift House Hospital for Diphtheria.

## TYPHOID FEVER IN BRISTOL.

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Towards the end of August, 1911, Typhoid Fever had assumed a threatening aspect in St. James, and Dr. Peters voluntarily accepted a commission to investigate and report. The disease, which was strictly localised, appeared to be spreading by opportunity of more or less direct personal contact-infection, as in the Totterdown outbreak of 1909,\* so the investigation took the form of a house-to-house search for contacts, "missed" cases, and early cases, followed by Hospital isolation of cases and of "suspects." As will be seen in the Report, suppression of the outbreak followed almost immediately.

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### Typhoid Fever in Bristol, 1911.

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#### Outbreak in the Registration Sub-District of St. James.

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Reported by B. A. I. PETERS, M.B., B.C., D.P.H.  
(Camb.); Resident Medical Officer Ham Green Hospital;  
Lecturer in Fevers to The University of Bristol.

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During 1911, 48 cases of Typhoid Fever (with two deaths) occurred in a small portion of the St. James district, between April and October. The epidemic began to assume alarming proportions at the end of August. The cases all occurred in, or were directly traceable to 17 houses in three small streets and two courts connected with them. The chief factor in the spread of the disease appeared to be contact infection from "missed" or ambulatory cases, especially from some occurring in children.

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\*See Annual Report for 1909.

**Group A.—CASES (1-11).**

The first three known cases occurred in December, 1910, in a court at the back of 8 C—— Street (making 51 cases in all for the whole series). Mrs. S. (1) \*took ill on December 4th, 1910, was removed to Hospital on December 16th, and notified on December 18th, but not before she had infected her husband (2) and child (3) who sickened on December 18th, and were notified and removed on December 23rd. This family returned to 8 C—— Street in the beginning of April. The next case a child (11) occurred in 13 C—— Lane, beginning on April 23rd, and removed on April 27th. The only known source of infection was from this child playing with the convalescent case. The next case (4) occurred in 6 C—— Street, taking ill on May 4th. He apparently suffered from an ambulatory relapsing type of the disease and was able to attend to his business, a small general shop, on and off during the summer. He did not seek medical advice until the end of August when he was very ill. He was removed to Hospital on September 5th and died shortly after. The next cases occurred among his customers (7 and 8), two children in 11 C—— Street, who took ill on 20th and 23rd June respectively. The former was removed to Hospital on June 28th but the other remained at home during the whole course of the illness. A secondary case (9) occurred on July 16th in the same house and was removed on August 7th.

Another case (6) began to be ill on June 26th in 7 C—— Street and was removed on July 14th.

Case (5) was a daughter of case (4), and took ill on September 15th, ten days after her father's removal to Hospital.

One other case occurred in this street on September 2nd (10), a little boy, living at 22 C—— Street.

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\*The order of numbering is that shown in the Table and Chart.

In this group it is to be noted that the cases occurred in houses very close together, the inhabitants of which were constantly meeting. As a house to house inspection of the neighbourhood was not begun until September 5th it is possible that some cases of this first group may have been overlooked.

#### **Group B & C—CASES (12-41).**

- C—— Lane—Cases (12-22).
- B—— Street—Cases (23-34).
- B—— Place—Cases (35-41).

The cases subsequently occurring in C—— Lane and B—— Street and B—— Place were apparently largely due to case (23). She lived at 9 B—— Street and took ill on July 1st. She went through an attack of the disease on her feet, suffering from fever, headache, diarrhoea and deafness. When discovered she was well again but on September 14th her blood gave a positive Widal reaction in 1/50, and on removal to Hospital her stools were found to contain large numbers of Typhoid bacilli. Her child (24) aged 2 was ill from July 22nd with diarrhoea and feverishness and gave a positive Widal reaction on September 16th, although then quite well. He doubtless played a considerable part in the spread of infection, as the house and court were soiled with his excrement, with which the neighbouring inhabitants must have come into frequent contact through their boots. Two other brothers No. (25) and (26) contracted clinical attacks of the disease and were removed on September 4th and 5th (onset August 22nd, September 1st).

At Nos. 7, 8 and 9 B—— Street, and in the small court B—— Place, which is fronted by Nos. 7, 8 and 9 B—— Street, 19 cases in all occurred or received their infection from the five houses. A lodger (38) living at 1 B—— Place, left the house on August 16th to live elsewhere, but developed the disease on September 4th. The same fate befel a lodger (29) who lived at 8 B—— Street ; he left on August 21st, but fell ill with the disease on September 8th.

Case (27) became ill on July 22nd and was visited by case (30), who was maid at a small hotel outside the neighbourhood. She took ill about August 16th and left the house on August 19th to live in the country, she could not be traced, but her symptoms, as described, pointed to an attack of Typhoid Fever. Case (28) was sister to case (27). A guest in the house (31) developed a typical attack of the disease, beginning on August 26th.

The remaining cases from this group all occurred about the same time. Nos. (32, 33, 34, 35, 36, 37, 39, 40 and 41) were evidently infected from a common source, may probably be attributed to cases (23) and (24), and brought the total number up to 19 cases from five houses. It is possible that some of them were infected indirectly through using a common W.C., which was only capable of being flushed by hand—a duty seldom performed judging from its foul condition. The seat and walls were also soiled with excrement.

Another group of cases numbering 11 occurred in four houses in C— Lane. Case (23) and her children frequently visited 15 C— Lane. The first to take ill here was a baby case (14), aged two months, he started with diarrhoea and fever of a most acute type, and gave a Widal reaction on September 21st., he infected his mother (15), father (16), and little sister (17). Case (18) was a playmate of (17) and took ill on September 20th, a fortnight after this family had been removed. Cases (12) and (13), and (19) and (20), all children, were constantly in this house. Case (21) aged 15, a playmate of (12) took ill on September 2nd. On September 26th he was found with a temperature of 102°F., though still going about, and his blood reacted positively to Widal's test ; his small brother (22) began to ail on September 20th, and was quickly removed to Hospital, where the diagnosis was eventually confirmed. No further cases occurred in the other 14 houses in this street. The cases only occurred among those who visited each others' houses or played together.

**Group D. B—— Buildings. Cases (42—51).**

Another group of cases occurred in B—— Buildings, a court opening off C—— Street.

The first came from 6 B—— Buildings, a little girl (42). She was ill from August 12th to 26th before removal. Two small brothers, cases (43) and (44), developed slight attacks on September 1st and 4th respectively. While ailing these children went several times with their aunt to visit a woman outside the district who subsequently took ill on September 8th, case (46). Her little daughter (47) went through a typical attack, beginning on October 14th, three weeks after her mother's removal to Hospital. A friend who had visited her frequently began to be ill on September 26th, case (48). The aunt, case (45), of cases (43) and (44) fell ill on September 11th.

Cases (49 and 51) were playmates of 42. Case 49 developed slight symptoms on August 26th, and was not removed until September 17th, by which time a sister case (50) was also seized with the same complaint.

As regards possible sources of infection besides contact, there is very little evidence to suggest them.

The milk supply of the infected houses was derived from separate sources, also supplying the houses which escaped. The water supply was from the mains and above suspicion.

Only six cases had partaken of shell fish, four of ice cream, and very few of fried fish. As most of the cases occurred at the warmest part of the year, when flies were plentiful, these insects may have played some part; but as only a comparatively small number of houses in a congested part were affected their influence must have been small.

It is to be noted that in each group a mild ambulatory case occurred at least a fortnight before the succeeding cases. The type of disease was mild—only two deaths occurring out of 51 cases. This factor doubtless helped in its spread.

Out of 51 cases 38 were notified by ordinary channels, while 13 cases were discovered in addition by a house to house inspection. A sample of blood was taken from anyone showing diarrhoeal symptoms, or if the suspicion warranted it the patient was at once removed for observation to Ham Green Hospital.

The City Engineer's department cleansed, disinfected and limewashed all the offees and swilled the affected streets.

A considerable amount of ordinary summer diarrhoea was present during the height of the epidemic. It is possible that this disease rendered the patients more liable to the invasion of the Typhoid bacillus and accounted for the rapid dissemination of the disease at the end of August.

It is noteworthy that the careful medical examination of all contacts or suspicious cases, and their speedy isolation, which began on September 5th, was followed by an extremely rapid subsidence of the epidemic.

B. A. I. PETERS.

## LIST OF CASES—(BY STREETS AND HOUSES).

GROUP A.

No. of Case	Age.	Sex.	Address.	Date of Onset.	Date of Removal.	
1	29	F.	8 C. St.	Dec. 4	Dec. 16	
2	27	M.	8 C. St.	Dec. 18	Dec. 23	
3	4	M.	,	Dec. 18	Dec. 23	
4	35	M.	6 C. St.	May 4	Sept. 5	Ambulatory relapsing ease. Died
5	7	F.	,	Sept. 15	Sept. 18	Very mild ease. Removed on suspicion.
6	26	M.	7 C. St.	June 26	July 14	
7	12	F.	11 C. St.	June 20	June 28	
8	7	F.	,	June 23	—	Refused removal.
9	16	F.	,	July 16	Aug. 7	
10	6	M.	22 C. St.	Sept. 2	Sept. 4	
11	14	F.	13 C. Lane	April 23	April 27	

GROUP B.

12	17	F.	13 C. Lane	Aug. 28	Aug. 30	
13	9	F.	,	Sept. 1	Sept. 4	
14	2½	M.	15 C. Lane	Aug. 6	Sept. 6	Diarrhoea and wasting. Slight Fever. Removed on suspicion.
15	25	F.	,	Aug. 26	Aug. 31	
16	24	M.	,	Sept. 4	Sept. 6	
17	2	F.	,	Sept. 4	Sept. 6	Very mild ease. Removed on suspicion.
18	2	M.	,	Sept. 20	Sept. 26	
19	9	F.	8 C. Lane	Sept. 3	Sept. 5	Died
20	15	F.	,	Sept. 4	Sept. 7	Very mild ease.
21	15	M.	6 C. Lane	Sept. 2	Sept. 26	Ambulatory ease.
22	6	M.	,	Sept. 20	Sept. 26	Removed on suspicion.

GROUP C.

23	39	F.	9 B. St.	July 1	Sept. 16	Ambulatory ease. Well on removal. B. Typhlosus present in stools until Oct. 1.
24	2	M.	,	July 22	Sept. 16	Diarrhoea and fever for three weeks. Well on removal.
25	4	M.	,	Aug. 22	Sept. 4	
26	12	M.	,	Sept. 1	Sept. 5	
27	6	F.	8 B. St.	July 22	Aug. 2	

LIST OF CASES—BY STREETS AND HOUSES (*Continued*).GROUP C. (*Continued*).

No. of Case.	Age.	Sex.	Address.	Date of		
				Onset.	Removal.	
28	18	F.	8 B. St.	Sept. 5	Sept. 7	Just sickening when discovered.
29	27	M.	—	Sept. 8	Sept. 11	Lodger at 8 B. St. until Aug. 21.
30	22	F.	—	Aug. 16	—	Maid at hotel outside this area. Visited case 27 while ill. Left on Aug. 19. Could not be traced.
31	24	M.	—	Aug. 26	Sept. 5	Visit <del>x</del> at hotel where above patient was maid.
32	16	F.	7 B. St.	Aug. 27	Sept. 2	
33	27	F.	„	Sept. 1	Sept. 6	Mild case. Fever for one week.
34	9	M.	„	Sept. 7	Sept. 8	Mild case. Fever for three days.
35	7	F.	1 B. Place	Aug. 26	Aug. 30	
36	16	F.	„	Aug. 24	Sept. 2	
37	5	F.	„	Aug. 23	Aug. 30	
38	29	M.	—	Sept. 4	Sept. 11	Lodger at 1 B. Place. Left on Aug. 16.
39	8	F.	1 B. Place	Sept. 3	Sept. 5	Mild case. Fever for three days.
40	31	M.	2 B. Place	Sept. 1	Sept. 7	
41	10	F.	„	Sept. 3	Sept. 8	

GROUP D.

42	4	F.	6 B. Bldgs.	Aug. 12	Aug. 26	
43		M.	„	Sept. 4	Sept. 14	Slight diarrhoea and fever for some days. Well on removal.
44	<sup>10</sup> / <sub>12</sub>	M.	„	Sept. 1	Sept. 14	Slight diarrhoea and fever for some days. Well on removal.
45	29	F.	„	Sept. 11	Sept. 17	
46	35	F.	—	Sept. 8	Sept. 23	Lived outside district. Cases 42-45 frequently visited at her house.
47	8	F.	—	Oct. 14	Oct. 21	Daughter of Case 46.
48	35	F.	—	Oct. 16	Oct. 26	Friend and visitor of Case 46.
49	9	F.	12 B. Bldgs.	Aug. 26	Sept. 17	Slight symptoms. Well on removal.
50	6	F.	„	Sept. 15	Sept. 17	Mild case.
51	7	F.	14 B. Bldgs.	Sept. 1	Sept. 20	Mild case. Well on removal. Playmate of Case 42.

All the cases recorded gave a positive Widal reaction.

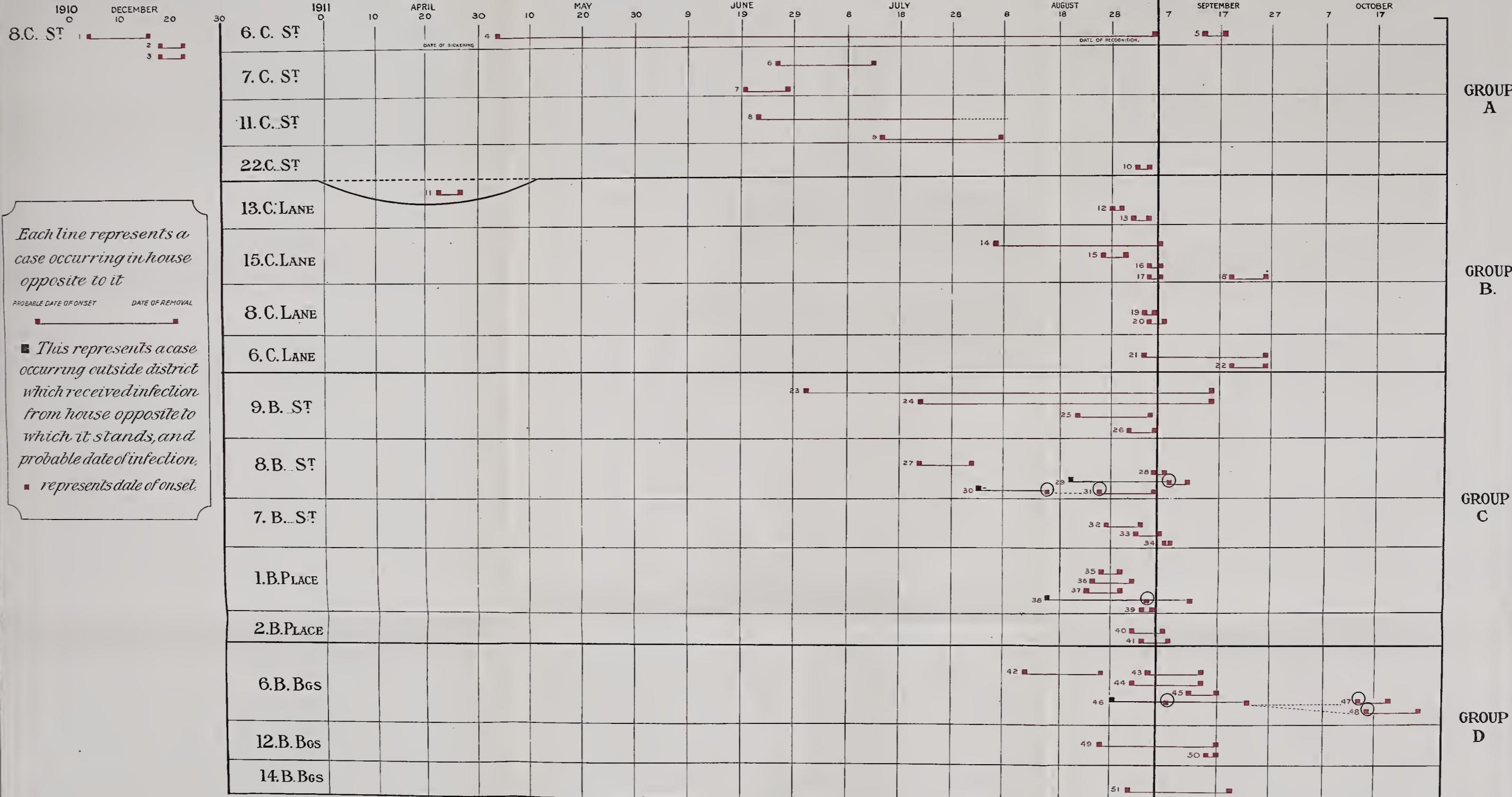
CITY OF BRISTOL  
TYPHOID FEVER IN ST. JAMES 1911.  
Report by Dr. B.A.I.PETERS.

CHART SHOWING PROBABLE DATE OF SICKENING  
AND DATE OF RECOGNITION IN EACH CASE

THE BLACK CASES ARE THOSE WHICH CONTRACTED INFECTION WITHIN THE DISTRICT BUT DEVELOPED THE DISEASE OUTSIDE

TOTAL CASES 51, DEATHS 2.

SEPT 5  
HOUSE TO HOUSE  
MEDICAL INSPECTION  
BEGUN





**DIPHTHERIA (including Membranous Croup).**

During the 52 weeks of 1911, 584 cases and 42 deaths were notified as Diphtheria, giving a death rate of 0·11.

The Diphtheria rate (including Membranous Croup) for the 77 great towns in 1911 was 0·15.

The 42 deaths returned as due to Diphtheria give a case mortality of 7·1 per cent. The case mortality observed in 1894 was 39 per cent.; much of this difference is apparent only, as large numbers of very mild cases, which in 1894 would have escaped observation, are sought for now by systematic bacteriological examination; this causes the figures as to case-mortality to be somewhat misleading. But the case-mortality of the years 1901-2-3 may more properly be compared with that for this year, and the diminution indicates, as I believe, the joint effect of decline in the virulence of the infection since these years of chief prevalence, and immunisation of the susceptible population through the wide diffusion of attenuated forms of the bacillus.

The 42 deaths from Diphtheria and Membranous Croup correspond to a death-rate from these causes of 11 per 100,000 living, which is the lowest rate recorded since 1891, with the exception of the rate of 9 in 1910, and compares with a rate of 14 in 1909, 18 in 1908 and 1907, 22 in 1906, 16 in 1905, of 30 in 1904, of 35 in 1903, and of 54 in 1902.

The attack rate 163, is the lowest recorded since 1900, with the exception of the rate of 145 recorded in 1910, and the case-mortality per cent. 7·1 is the lowest recorded with the exception of the rate of 5·7 in 1905, and 6·8 in 1910, since notification began in 1890.

Diphtheria (including Membranous Croup) for 22 years.

Years	Cases Notified	1 Attacks per 100,000 Living	2 Deaths	3 Deaths per 100,000 Living	4 Case Mortality per Cent.
1890* <sup>2</sup>	56	25	16	7	28·5
1891	70	31	16	7	22·8
1892	106	47	38	16	35·8
1893	141	59	53	23	37·5
1894	128	56	50	22	39·0
1895	165	69	34	14	20·6
1896	258	111	38	16	14·7
1897	205	88	36	15	24·7
1898*	217	68	44	13	20·2
1899	215	67	33	10	15·3
1900	512	157	103	31	21·1
1901	908	275	124	87	13·6
1902	1,109	325	189	54	17·0
1903	1,134	331	119	35	10·4
1904†	1,051	305	105	30	9·9
1905	1,021	284	59	16	5·7
1906	839	231	82	22	9·7
1907	926	251	68	13	7·3
1908	924	248	69	18	7·4
1909	712	188	55	14	7·7
1910	556	145	38	9	6·8
1911	584	163	42	11	7·1

\* Enlarged City.      † City again extended in 1904.

<sup>22</sup> Notification commenced February 12th, 1890.

Diphtheria—Showing incidence of Cases and Deaths on  
the Sub-Districts of Bristol, 1911.

Incidence Rate per 100,000 Population.	Cases	REGISTRATION SUB-DISTRICT.	Deaths.	Death Rate per 100,000 Population.
		POPULATION. (Census 1911).		
175·1	83	Ashley ..... 47,378	4	8·4
170·0	104	Bedminster ..... 61,176	5	8·1
103·9	40	Bristol Central ..... 38,485	5	12·9
138·9	59	Clifton..... 42,466	5	11·7
119·1	24	Knowle ..... 20,150	1	4·9
189·7	111	S. George ..... 58,478	7	11·9
193·1	97	S. Philip ..... 50,215	12	23·8
95·5	25	Stapleton ..... 26,149	1	3·8
119·4	15	Westbury-on-Trym .... 12,562	1	7·9
—	21	Arising in Municipal Institutions .....	—	—
—	5	Not belonging to Boro'	1	—
163·3	584	City ..... 357,059	42	11·7

Diphtheria—Notifications in each Quarter in the Sub-Districts of Bristol, 1911.

	1st Qr.	2nd Qr.	3rd Qr.	4th Qr.	Year.
Ashley . . . . .	52	2	12	17	83
Bedminster . . . . .	29	23	26	26	104
Bristol Central . . . . .	13	6	11	10	40
Clifton . . . . .	16	13	17	13	59
Knowle . . . . .	2	2	11	9	24
S. George . . . . .	23	14	31	43	111
S. Philip . . . . .	15	8	31	43	97
Stapleton . . . . .	7	2	4	12	25
Westbury-on-Trym . .	8	1	4	2	15
Arising in Municipal Institutions . . . . .	9	—	5	7	21
Not belonging to Boro'	2	1	—	2	5
<b>City . . . . .</b>	<b>176</b>	<b>72</b>	<b>152</b>	<b>184</b>	<b>584</b>

The Health Committee during the year have supplied 422,000 units of Diphtheria antitoxin free to Medical Practitioners upon application, for 69 patients whose parents were certified as unable to afford to pay for this.

#### Laboratory Examinations in Diphtheria and Enteric Fever.

	Diphtheria.	Enteric Fever.	Total.
1895	87	—	87
1896	206	—	206
1897*	379	254	633
1898	390	127	517
1899	485	290	775
1900	915	452	1,367
1901	2,527	425	2,952
1902	3,771	420	4,191
1903	5,545	240	5,785
1904* <sup>2</sup>	6,858	308	7,166
1905	6,469	161	6,630
1906	4,738	219	4,957
1907	6,549	166	6,715
1908	5,003	172	5,175
1909	4,118	138	4,256
1910	3,113	172	3,285
1911	3,081	373	3,454

\* City enlarged in November, 1897.

\*<sup>2</sup> City enlarged in October, 1904.

In November, 1902, this work, which had for seven years been voluntarily undertaken by the Medical Officer of Health, was transferred to University College, Bristol, and in 1906 was transferred to the City Analyst.

Of the 3,454 bacteriological examinations made during 1911, 1,615 were of suspected cases of Diphtheria, of which a positive result was obtained in 438, 351 showed suspicious organisms, and 826 gave a negative result ; 1,466 control examinations to determine recovery, of which a positive result was obtained in 423, 408 showed suspicious organisms, and 635 gave a negative result ; and 373 were of suspected cases of Enteric Fever, of which a positive result was obtained in 80, and two gave doubtful reactions.

The following revised Memorandum has been issued :—

### Antitoxin in Diphtheria.

The importance of **early dosage** cannot be over-estimated, a delay of a few hours in administration of Antitoxin may make a serious difference to the patient ; if every case could be treated **on the first day of illness and kept at rest for three weeks**, very favourable results would follow.

If the Clinical symptoms warrant the clear suspicion of Diphtheria, do not await the result of a Culture, but administer a full dose of Antitoxin at once.

If the diagnosis is clinically certain, notify at once (by telephone if necessary), specifying urgency if removal is required. A Culture, which should always be taken, can be dealt with later. Written Notification must also be forwarded.

#### DOSAGE.

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The following Rules should be followed, having regard to the type of Diphtheria at present in the City.

The minimum Therapeutic dose should be taken as 4,000 units irrespective of age ; diphtheria is more severe in young children, so that large doses are necessary, and may be administered without ill effect.

In all cases showing definite evidence of Diphtheria the doses should be :—

On first day of illness ..	4,000 units
„ second „ ..	6,000 „
„ third or later ..	8,000 „

In the more severe cases the maximum dose should be repeated every 12 hours until the membrane begins to separate.

In less severe cases the interval may be prolonged to 24 hours.

In mild cases seen on the first or second day, one dose may be sufficient.

The administration of a **sufficient dose** of Serum at an early date greatly reduces the risk of severe paralysis during convalescence.

D. S. DAVIES, M.D.,  
Medical Officer of Health.

B. A. I. PETERS, M.B.,  
Resident Medical Officer,  
Ham Green Hospital.

PUBLIC HEALTH OFFICES,  
40 PRINCE STREET, BRISTOL.  
March, 1911.

### Diphtheria, 1911—School Incidence.

In February, owing to the occurrence of Diphtheria at St. Alban's School, five cases having been notified since 17th December, a medical examination of the children sitting near the affected children, and of those who had been absent from school was made on 9th February ; 15 of these children were examined bacteriologically, and six were found to have Diphtheria organisms in throats or noses, or in both—these children were excluded from school ; six also showed suspicious organisms. A brother of one of the positive cases, who attended another school, was notified on 16th February.

On 14th June a medical inspection was made of the scholars attending the Infants' department of Christ Church School, three cases of Diphtheria having been notified since 24th May of scholars attending this department. 105 children were inspected, 14 were examined bacteriologically, and of these one was found to have Diphtheria organisms present in throat, and nine showed suspicious organisms in throats or noses.

On 14th July, owing to the occurrence of Diphtheria among the scholars attending St. Gabriel's School, six cases having been notified since 10th July, a medical examination of the scholars attending the infected classes was made, and two children were found to be harbouring the disease and were at once excluded.

On 10th October a medical inspection of the scholars in certain classes at Greenbank School was made, five cases of Diphtheria having been notified since 25th September among scholars from these classes. One child was found on bacteriological examination to have Diphtheria organisms present in nose, and 13 to have suspicious organisms present in throats or noses. The absentees from these classes were looked up, one was found to have suspicious organisms present, and a younger sister of one of the scholars to be suffering from Diphtheria.

On 17th October, a medical inspection was made of the scholars attending the Infants' department of St. Mark's School, five cases having occurred since 1st October, in this department. Twenty of the scholars were examined bacteriologically, one was found to have Diphtheria organisms in free growth in throat, and 16 to have suspicious organisms in throats or noses. Seven absentees from this department were also looked up and two of these were found to be suffering from Diphtheria.

## DISEASE CARRIERS.

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### TYPHOID FEVER AND DIPHTHERIA.

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Recognition of the establishment of a chronic condition in certain cases of the acute specific fevers, which were formerly considered to run a definitely limited course, has introduced administrative difficulties of a new kind, which are typically presented in the case of the chronic typhoid carrier.

On the one hand, the mere fact that certain patients after apparent recovery still excrete bacilli continuously or intermittently, and from time to time prove "effective" agents in the causation of typhoid outbreaks, would appear to call for as close supervision in civil life as has already been applied with conspicuous success in the case of the army. On the other hand, the infrequency of the condition, further complicated by its intermittence, has caused some to question whether it is worth while to be at so much pains for so little result ; while others consider that the onerous and highly specialized nature of the necessary research, the prolonged detention in hospital of patients apparently well, and the lack of restrictive powers over such patients, render administrative control, however desirable, a mere counsel of perfection.

### TYPHOID CARRIERS.

#### *Infrequency of the Condition.*

It has to be admitted that the number of typhoid convalescents who are likely, from the nature of their occupation as cooks, dairymaids, etc., to prove "effective" carriers is quite small. In India<sup>1</sup> some 1,000 cases of typhoid fever occur annually amongst British troops ; of these, about 200 end fatally and about 50 are invalidated to

England ; of the 750 left in India it may be assumed that 23 become "carriers." But as only 3 or 4 per cent. of soldiers have to do with the cooking or preparation of food for their comrades, not more than one or two "carriers" can be looked for as likely to be a source of contamination of food supplies in the cookhouses. Yet, so important is this source of infection considered, that convalescent depôts at Nani Tal and at Wellington have been established, at which all convalescents are kept under rigid observation, and the fact that the admissions from typhoid fever from all stations in 1908 which send convalescents to Nani Tal show a reduction of 9 per cent. on the figures for 1907, while the remaining stations show an increase of 26·6 per cent., certainly suggests that the work has proved beneficial.

The argument as to the small number of "effective" carriers likely to be detected is faulty, for the fundamental basis of preventive epidemiology is to detect and deal with the earliest case, rather than to exploit elaborate measures of stamping out. It is more economical, too, both in life and money.

#### *Intermittence and Prolonged Detention in Hospital.*

The intermittence of the condition makes prolonged observation necessary in order to achieve certainty, and the army rule is that no convalescent patient is sent back to his station within four months of the cessation of his fever. By this time a fairly accurate idea can be formed as to which patients will develop into carriers, but in civil life it would be impossible to enforce hospital detention for so long a period. The present almost universal system in English fever hospitals is to discharge typhoid fever convalescents when, from the clinical standpoint, they appear to be fit for discharge ; where a time limit is imposed it varies from three to six weeks after the re-establishment of normal temperature. This appears to be insufficient—the army standard is impracticable in civil life ; it becomes necessary to consider a working mean.

It has been found practicable at Brighton<sup>2</sup> to keep patients under experimental observation during the convalescent stage, with normal temperature, over twelve weeks ; 27 patients were dealt with ; in 12 of the 14 cases in which a positive result was obtained during the fourth, fifth, sixth and seventh weeks of convalescence, later examination showed the disappearance of *B. typhosus* from the faeces. These figures, so far as they go, show that in typhoid fever the faeces are infective in about two-thirds of the cases during the fourth to the seventh week of convalescence, and that after the seventh week the risk of infectivity is small.<sup>3</sup>

#### *Necessity for Early Determination of the Condition.*

The common experience of the extreme difficulty in curing a typhoid carrier whose condition has become established points to the necessity for early detection so as to admit of the prompt application of remedial measures.

Dr. Matthew Hay, of Aberdeen, reports that in every case of typhoid fever treated in the Aberdeen City Hospitals during 1909, the patient was not discharged from hospital until the urine and stools were found to be free from the bacillus after two successive examinations. In two cases in which the bacilli continued in the stools for eight and ten weeks respectively, Dr. Hay made use of a combination of saline cathartic with a disinfectant so as to secure a large secretory and excretory flow from the walls of the intestines, as also from the liver and gall bladder, with the object of washing the bacilli into the intestine, where they could be acted on by the disinfectant ; this was apparently successful. Dr. Hay emphasizes the important point that if the treatment is to prove effective, it should be commenced as soon as the case is seen to be drifting into the condition of a chronic carrier, and before the patient is released from isolation. He repeats the caution that it is useless to wait until the bacilli have been lodged for many months or years in the gall bladder, and

have in part become embedded in its walls or in gall stones. Josef Koeh has previously pointed out the hopeless condition that must result when the bacilli in the gall bladder, urinary passages, or intestinal wall become surrounded by areas of dead tissue through which no curative agent can penetrate, and the importance of detecting the case before these chronic changes have come about. An example of this difficulty has been for two years under treatment in Ham Green City Hospital, Bristol.

*Case No. 3, Urinary Type.*—Urotropin has been tried; autogenous vaccines were given for five months; no treatment availed, though there was one period of intermission lasting nine months, after which the bacilli reappeared. Finally, the *B. typhosus* having been localized in the right kidney, surgical exploration of the kidney revealed the presence of small calculi surrounded by minute abscesses; from these abscesses *B. typhosus* was obtained in pure culture. The removal of the calculi and abscesses was followed by some improvement in the condition, but absolute cure has not yet been attained.

#### *Divided Responsibility, and Provision for Adequate Means of Research.*

Some difficulties may occur under these heads. If cases of typhoid fever are nursed in the general hospitals, there may be some disinclination amongst the medical staff to go beyond routine clinical treatment, on the ground that the "carrier" condition is the concern of preventive rather than curative medicine. If they can be dissociated, this might be so; but the most effective reply is that adopted by Dr. Armstrong, of Newcastle-on-Tyne, who insists on the necessity for isolation of all typhoid patients in a fever hospital. Again, there are not always available either in general or fever hospitals, adequate facilities for the accurate determination of the presence of *B. typhosus* in the dejecta. It is highly desirable that every district should have, as appears to be the case in Germany, the services of a competent pathological laboratory and its staff available.

*State Interference.*

Up to the present no solution as to what legislation is both necessary and desirable to deal with the chronic typhoid carrier has been arrived at. Forceable quarantine, imposed for three years in America, had to be abandoned. Granting a pension, as in the Aberdeenshire case,<sup>1</sup> might prove an inconvenient precedent. In Melbourne legislation has been suggested to make it an offence for any one who is a typhoid carrier to be employed or to apply for employment. It must not be forgotten, however, that the "carrier" is a victim, and not an intentional offender, and methods of supervision and control are indicated rather than harsh methods, which rarely succeed in relation to disease prevention. At present the legal position of the "chronic typhoid carrier" in England is apparently one of complete freedom from the operation of the Public Health Acts.

*Summary of the Position.*

Whether the case is nursed in a general hospital or in the fever hospital of a sanitary authority, investigation as to existence of the carrier condition should be commenced during convalescence, before discharge from hospital. Two or three routine examinations, at intervals, of urine and faeces ought to be made in every case. This is useful in two ways : not only does it give definite indication as to cases needing after-supervision, but it calls early attention to the condition, and gives opportunity for commencement of treatment at a time when it may be of service to the patient. All hospitals must possess laboratory equipment or make suitable arrangements for securing the necessary determinations. In the majority of hospitals at the present time typhoid convalescents are discharged on clinical symptoms alone. The bacteriological method simplifies the after-supervision of cases ; those giving positive indications must, of course, be kept under as continuous supervision as possible, and others who

deal with food supplies should be advised to submit to periodical examination. It is doubtful whether it is advisable to warn employers, or only in very exceptional cases.

All convalescents from typhoid fever should receive clear instructions as to their responsibilities in the matter, such as those issued by the Typhoid Station at Strassburg<sup>5</sup> or those issued in Bristol,<sup>6</sup> where also a list of typhoid convalescents is kept, so that they may be visited and advised, especially in regard to the relation of their occupation to dairy work or food supplies.

The establishment of a general system of supervision corresponding to the South-West German stations, and the adoption of standing orders similar to those employed at the Pfalz Station, may usefully engage the attention of the central Government Department, and is much to be desired.

Until the position of the chronic typhoid carrier is legally recognised as an infective condition, bringing the patient under restrictive control in his own interest as well as in the public interest, it is practically impossible to secure anything like effective bacteriological control over convalescents after discharge from hospital.

The standing orders employed at the Pfalz Station have been in force since 1904 :

1. Typhoid carriers and clinically cured cases are retained under bacteriological supervision until a bacteriological cure results.
2. So long as they discharge bacilli, the official disinfectors carry out or supervise the continual disinfection of privies used by them with milk of lime.
3. In the case of school children, workers in factories, and such like, teachers, officials in State and private bureaus, these may carry on their respective duties, provided that the schools, factories, etc., are provided with suitable wash basins and soap. On commencing duty and on every occasion when the privy or urinal is visited, the hands must be cleansed.
4. Typhoid carriers are to be restrained from the preparation and sale of food stuffs.

### DIPHTHERIA CARRIERS.

The necessity for control over the discharge of diphtheria patients by bacteriological methods is generally recognised, and, being comparatively simple, is widely adopted.

#### *After Control.*

The amount of after-control necessary during epidemic diphtheria varies in different circumstances. Probably only a small percentage of the morphologically typical diphtheria bacilli found in well persons not recently exposed to the disease are virulent, but even if only a small proportion is likely to transmit the disease, they may form an important factor in its spread. Infected adults are ordinarily less likely than children to communicate the infection, so that the following conclusions may be formulated :<sup>7</sup>

1. It is impracticable to isolate well persons infected with diphtheria bacilli, if such persons have not, so far as known, been recently exposed to the disease.
2. It is not advisable, as a matter of routine, to isolate from the public all the well persons in infected families, schools, and institutions.

The exceptions have to be made, as matter of expediency, in regard to wage earners, business and professional men. It is, however, advisable to keep the children in infected families away from day school, Sunday school, and all public places. Wage earners may usually be allowed to continue their work, but teachers, nurses and others who are brought into close contact with children, and also milkmen, should not be allowed to do so.

In schools and institutions all infected persons, sick or well, should, if the infection is not too widespread, be separated from the others.

When diphtheria appears in a community which has for some time been free from it, it is advisable to isolate all persons who have been brought into contact with the patient until it shall have been shown that they are free from diphtheria bacilli.

*"Chronic Carriers."*

The details given by Councilman, Mallory, and Pearse, show how diphtheria may persist in the accessory sinuses of the nose for long periods, without clinical symptoms. In such cases the bacilli may disappear upon douching the nose with antiseptic solution, but as soon as the cleansing is stopped they reappear. Fortunately such cases appear to be rare, and are only likely to occur during invasion of a district by an organism with high potentiality of infectivity. When they occur there is no help for it but to keep the patient, if a child, under continuous exclusion from school, and under prolonged treatment; in a tediously prolonged case, determination of virulence of the bacilli found is an advisable step.

Quite recently Dr. Garrett,<sup>9</sup> of Cheltenham, has questioned the advisability of search for "carrier" contacts and the reliability of the bacteriological indications obtained, and quotes the experience of ten years during which success in dealing with diphtheria has been achieved without recourse to bacteriological control of contacts, and with an average annual death-rate of 1 per 10,000 population. He points out that during these ten years there was no prevalence of diphtheria inviting the name of "epidemic," and that no school outbreaks caused trouble.

This is no doubt correct; from my own experience I can furnish a parallel. As I have pointed out elsewhere<sup>10</sup> for fourteen years, up to 1900, although some diphtheria was always present in the city, not only was the fatality singularly and consistently low, but there was no sign of any special school influence, and school outbreaks were practically unknown; no hospital beds for diphtheria were provided, nor was there any apparent need for them. But with the introduction of a virulent type of diphtheria in February, 1900, the conditions were suddenly and completely changed. The fatality rose from 1 per 10,000 in 1899 to 3·1 in 1900, and to 5·4 in 1902. Hospital beds

became urgently needed ; indeed, the general hospitals were called upon to assist in providing beds, school outbreaks became common and serious, and bacteriological methods became imperative, and, used with discretion, gave indications of extreme value. The epidemic wave period of diphtheria is so long that a period of ten years is insufficient for generalization. At one time bacteriological examination and restriction over contacts and carriers may be immaterial or inadvisable ; at another, when dealing with a different strain of bacillus, they may become essential.

#### REFERENCES.

- <sup>1</sup> Report of the Army Medical Department for 1908. <sup>2</sup> Alfred Harris, On the Duration of Infectivity of Enteric Fever, *Lancet*, vol. clxxx, p. 657, 1911. <sup>3</sup> *The Medical Officer*, April 22nd, 1911 (Review, Foulerton). <sup>4</sup> Reports to the Local Government Board on Public Health and Medical Subjects, New Series (No. 43), The Enteric Fever Carrier, Ledingham, p. 37. <sup>5</sup> Ledingham, op. cit., p. 123. <sup>6</sup> Davies and Walker Hall, The "Effective" Periods of Typhoid Carriers, *Lancet*, 1908, ii. p. 1585. <sup>7</sup> Diphtheria in Well Persons, Report by Committee of the Massachusetts Association of Boards of Health, 1902. <sup>8</sup> A Study of the Bacteriology and Pathology of 220 Fatal Cases of Diphtheria. Councilman, Mallory, and Pearse, Harvard and Pennsylvania Universities. <sup>9</sup> *Public Health*, vol. xxiv. No. 3, p. 100, December, 1910. <sup>10</sup> *Public Health*, March, 1907.

D. S. DAVIES, M.D.

**Cholera—Choleraic Diarrhœa—Plague.**

No suspicious cases were introduced.

**Diarrhœa—Infantile Diarrhœa.**

The number of deaths returned as due to Diarrhoeal diseases during the year was 407 compared with 76, 116, 154, 133, 213, 169, 206, 107, 165 and 345 fatal cases recorded in the previous ten years. Of the 407 deaths, 314 occurred in children under one year of age, 64 at ages one to five, two at ages 5 to 15, eleven between the ages of 25 and 65, and sixteen in persons aged 65 and upwards. These deaths give a Diarrhœa death-rate of 1·13 per 1,000 living compared with 0·19 in 1910.

The remarkable increase in deaths from Diarrhœa is directly a result of the abnormal heat of the late summer and autumn.

**Infantile Diarrhœa in Bristol, 1911.**

In consequence of the prolonged wave of heat and drought of August and September, the City suffered in common with the country generally from a great increase of deaths attributable to this cause.

Up to and including the week ending 29th July the deaths registered from Infantile Diarrhœa were very few in number, and during that week only amounted to three. Succeeding weeks, however, showed a progressive increase in the number of cases up to the week ending 26th August, thus :—14, 19, 51 and 62. During the week ending 2nd September the number of deaths (55) showed a slight decline, and from this point steady improvement resulted week by week in spite of the recurrence of some hot weather. The districts which suffered most heavily are St. Philip, St. George, and Bedminster.

On 21st August enquiry was made of the Local Government Board as to steps which could be taken, in the absence of the Notification of Births Act, to obtain early

information of births, so that the measures advised in their Circular of August 18th (Prevalence of Epidemic Diarrhoea amongst Children) might be facilitated.

In answer the Local Government Board advised that daily returns of the births registered should be obtained from the District Registrars and an early visit made by an Officer of the Sanitary Authority, and the utilisation of earlier information from Midwives.

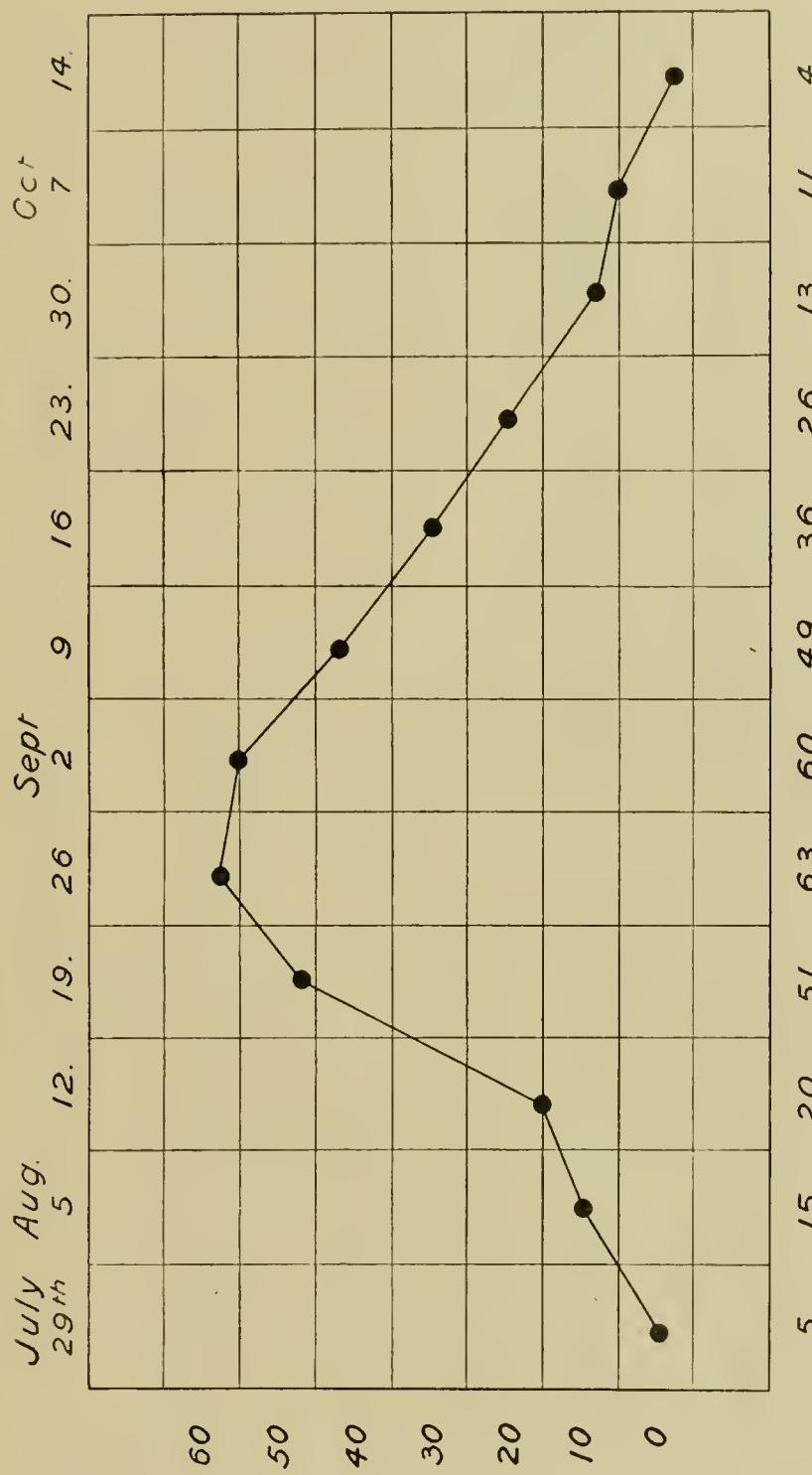
The acting Chairman of the Health Committee summoned an emergency Committee to consider the matter, and at a meeting held on 24th August it was arranged to obtain daily returns of births from the District Registrars, and to utilise the District Inspectors in house visiting. It was felt that as Midwives were not under the control of the Committee, they could not be required to furnish the required information.

Arrangements were at once made to carry out the Committee's decision, and the District Inspectors worked in the matter with considerable interest and energy, visiting over 600 homes.

The figures for this year are comparable with those of 1899, but the epidemic wave was somewhat more prolonged during the present season.

In September, in accordance with an offer kindly made through Miss Townsend, two voluntary lady helpers connected with the "School for Mothers" assisted in the visiting. One lady, Nurse Densham, reports:—"In every case the mother seemed pleased to receive a visit and promised to act on the advice given;" the other lady, Miss Budgett, replies "that conditions found were generally satisfactory, but in one case there seemed to be insufficient food for the nursing mother."

I feel much indebted to the "School for Mothers" for this kind co-operation, which will, I hope, shortly be possible on a much extended basis so as to realise the idea of voluntary effort in a municipal setting.



Diarrhoea Curve. Bristol 1911.

CITY OF BRISTOL.

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Table showing Diarrhoeal Mortality by Weeks during the 3rd Quarters of the Years 1907-1911.

YEAR.	WEEKS OF YEAR.										3rd Quarter.	Rate per 1000 Population.			
	27th	28th	29th	30th	31st	32nd	33rd	34th	35th	36th	37th	38th	39th		
1907	2	—	2	1	1	—	1	2	7	1	6	6	13	42	0·45
1908	2	1	—	—	1	5	12	24	20	25	14	6	7	117	0·80
1909	1	2	1	3	1	5	7	7	12	16	9	3	9	76	0·80
1910	1	—	—	2	—	1	3	2	4	6	6	5	6	36	0·37
1911	—	2	—	5	15	20	51	63	60	49	36	26	13	340	3·80

**CITY OF BRISTOL.**

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Table showing Deaths from Diarrhoea during the Third  
Quarters of the Years 1907-1911.

Registration Sub-District.	1907	1908	1909	1910	1911
Ashley .. ..	2	5	2	1	23
Bedminster ..	13	25	17	11	55
Bristol Central ..	5	13	9	2	30
Clifton .. ..	1	1	2	5	22
Knowle .. ..	2	4	1	—	15
St. George .. ..	6	32	15	10	75
St. Philip .. ..	12	29	27	5	84
Stapleton .. ..	1	6	2	2	24
Westbury-on-Trym	—	—	1	—	9

### Erysipelas.

During the year 1911, 309 cases of Erysipelas were notified, and nine deaths were returned, compared with 177 cases and seven deaths in 1910.

### Puerperal Fever.

Twenty-six cases of Puerperal Fever were notified, compared with 39 last year. Ten cases proved fatal, compared with 23 in 1900, 17 in 1901, 17 in 1902, 14 in 1903, 16 in 1904, 6 in 1905, 14 in 1906, 11 in 1907, 7 in 1908, 17 in 1909, and 14 in 1910.

### Typhus Fever.

No case of Typhus Fever was notified in the City during the year. This disease disappeared when Registration of Common Lodging Houses and control of gross insanitary conditions were taken in hand in the sixties and seventies of last century.

### Measles.

The deaths from Measles in the City in 1911 numbered 164 compared with 32 in 1910, 90 in 1909, 96 in 1908, 36 in 1907, 140 in 1906, 180 in 1905, 94 in 1904, 11 in 1903, 411 in 1902, with 7 in 1901, with 200 in 1900, and 38 in 1899. These fluctuations are characteristic of Measles prevalence in large centres of population.

Of the 164 deaths, 151 occurred in children under 5, 12 between the ages of 5 and 15, and 1 between 15 and 25.

In the first quarter of the year 52 deaths occurred, 89 in the second, 14 in the third, and 9 in the fourth quarter.

The relative fatality for a period of 10 years in the City of Bristol from various diseases is here shown, and Measles is found to occupy a most prominent place amongst the causes of mortality.

	1902-1911 Deaths			
Diarrhoea .. .. .. ..	1692			
Measles .. .. .. ..	1254			
Whooping Cough .. .. .. ..	932			
Diphtheria .. .. .. ..	827			
Scarlet Fever .. .. .. ..	293			
Enteric Fever .. .. .. ..	203			
Small-pox .. .. .. ..	15			
Typhus Fever .. .. .. ..	0			

### Whooping Cough.

The deaths from Whooping Cough in the City numbered 142, compared with 66 in 1910, 56 in 1909, 128 in 1908, 35 in 1907, 102 in 1906, 123 in 1905, 110 in 1904, 65 in 1903, 105 in 1902, 189 in 1901, and 54 in 1900.

Sixty-three of the deaths occurred in children under one, 74 at the ages of one to five, and five at ages five to fifteen.

In the first quarter of the year 72 deaths occurred, 60 in the second, 9 in the third, and 1 in the last quarter of the year.

The disease was most fatal in S. Philip (47), S. George (27), and Bedminster (22).

The mortality in this disease is largely due, as in the case of Measles, to the want of care exercised during the course of the illness in avoiding exposure to inclement weather. It bears a similar relation to school attendance as in the case of Measles, and is very fatal at ages under five.

### Influenza.

This disease was credited with 27 deaths during 1911, compared with 43 in 1910, 27 in 1909, 73 in 1908, 55 in 1907, 47 in 1906, 54 in 1905, 27 in 1904, 33 in 1903, 56 in 1902, 65 in 1901, and 53 in 1900.

The deaths occurred in the first, second, and fourth quarters of the year, nine in each quarter.

## Cerebro-Spinal Fever and Anterior Polio-Myelitis.

CITY AND COUNTY OF BRISTOL.

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NOTICE is hereby given that by Resolution of the Council of the City and County of Bristol, dated the 26th September, 1911, and duly approved by the Local Government Board, it was ordered that the INFECTIOUS DISEASE (NOTIFICATION) ACT, 1889, shall apply for a Period of Six Calendar Months to the Diseases known as CEREBRO-SPINAL MENINGITIS and ANTERIOR POLIO-MYELITIS.

The Order will come into operation on the 9th October, 1911, and will continue in force for Six Calendar Months thereafter.

EDMUND J. TAYLOR, Town Clerk.  
The Council House, Bristol, 29th September, 1911.

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CITY AND COUNTY OF BRISTOL.

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NOTICE is Hereby Given that the Council of the City and County of Bristol, at their Meeting on Tuesday, the 12th day of March, 1912, passed the following resolution, namely :—

“ That the provisions of the Infectious Disease (Notification) Act, 1889, shall apply within the County of the City of Bristol to the infectious Diseases known as acute poliomyelitis and cerebro-spinal fever.”

And Notice is hereby further given that the Local Government Board, having approved of the foregoing Resolution, the same will come into operation within the County of the City of Bristol on THURSDAY, the 4th day of April, 1912.

EDMUND J. TAYLOR,  
Town Clerk.  
The Council House Bristol, 25th March, 1912.

During the year four deaths were returned as due to Cerebro-Spinal Fever ; 1 in Bedminster, 1 in Clifton, 1 in S. George, and 1 in Westbury-on-Trym.

One notification of Cerebro-Spinal Fever, and 11 of Anterior Polio-Myelitis, were received since the order came into operation on October 9th, 1911.

## TUBERCULOSIS.

### PHTHISIS (PULMONARY CONSUMPTION).

The fatality of Pulmonary Phthisis and of other Tuber-cular diseases, in comparison with that from the seven principal Zymotic diseases is shown here for fifteen years:—

Year.	Phthisis.	Other Tubercular Diseases.	Seven Principal Zymotics.
1897	302	136	430
1898	393	178	851
1899	430	180	582
1900	415	145	606
1901	401	139	530
1902	415	162	942
1903	366	154	375
1904	413	144	578
1905	407	152	583
1906	404	137	585
1907	384	114	314
1908	397	140	467
1909	391	133	350
1910	354	129	233
1911	410	124	789

Phthisis is thus shown to be a serious cause of mortality, leading in some years to as many deaths as the seven principal Zymotic (or chief epidemic) diseases ; but the rates in the next table show that the death rate from this disease has steadily declined since 1840.

## City of Bristol—PHTHISIS.

Year.	Population.	Total Deaths.	Rate per 100,000 Population.
1838	Census, 1831.	590	422
1839	139,818	643	459
1840		665	475
1841		597	358
1842		550	330
1843		634	381
1844		553	332
1845	Census, 1841.	560	336
1846	166,327	582	349
1847		510	306
1848		560	336
1849		536	322
1850		488	393
1851		478	262
1852		506	278
1853		587	322
Combined Districts :—	1854	479	263
	1855	498	273
	1856	490	269
	1857	527	289
Bedminster, Bristol, Clifton.	1858	523	287
	1859	550	302
	1860	481	238
	1861	524	259
	1862	488	241
	1863	477	236
	1864	523	258
	1865	Census, 1861.	253
	1866	201,971	279
	1867	535	264
	1868	498	246
	1869	527	260
	1870	583	238
	1871	579	236
	1872	Census, 1871.	231
	1873	244,591	218
	1874	524	214
	1875	528	215
	1876	195,338	205
	1877	197,395	207
	1878	199,879	217
	1879	202,400	199
	1880	204,942	179
	1881	207,299	164
	1882	208,007	194
	1883	209,522	203
	1884	211,048	194
	1885	212,586	194
	1886	214,134	185
	1887	215,694	153
	1888	217,266	153

## PHTHISIS—Continued.

Year.	Population.	Total Deaths.	Rate per 100,000 Population.
1889	218,848	326	148
1890	220,442	413	187
1891	222,049	382	172
1892	223,592	372	166
1893	225,028	363	161
1894	226,578	332	146
1895	228,139	317	138
1896	230,626	320	138
1897	232,242	302	130
1898	316,900	393	124
1899	320,911	430	134
1900	324,973	415	127
1901	329,086	401	121
1902	334,632	415	124
1903	338,895	366	108
1904	343,204	413	120
1905	358,505	407	113
1906	363,223	404	111
1907	367,979	384	104
1908	372,785	397	106
1909	377,642	391	102
1910	382,550	354	92
1911	357,509	410	114





# PHTHISIS

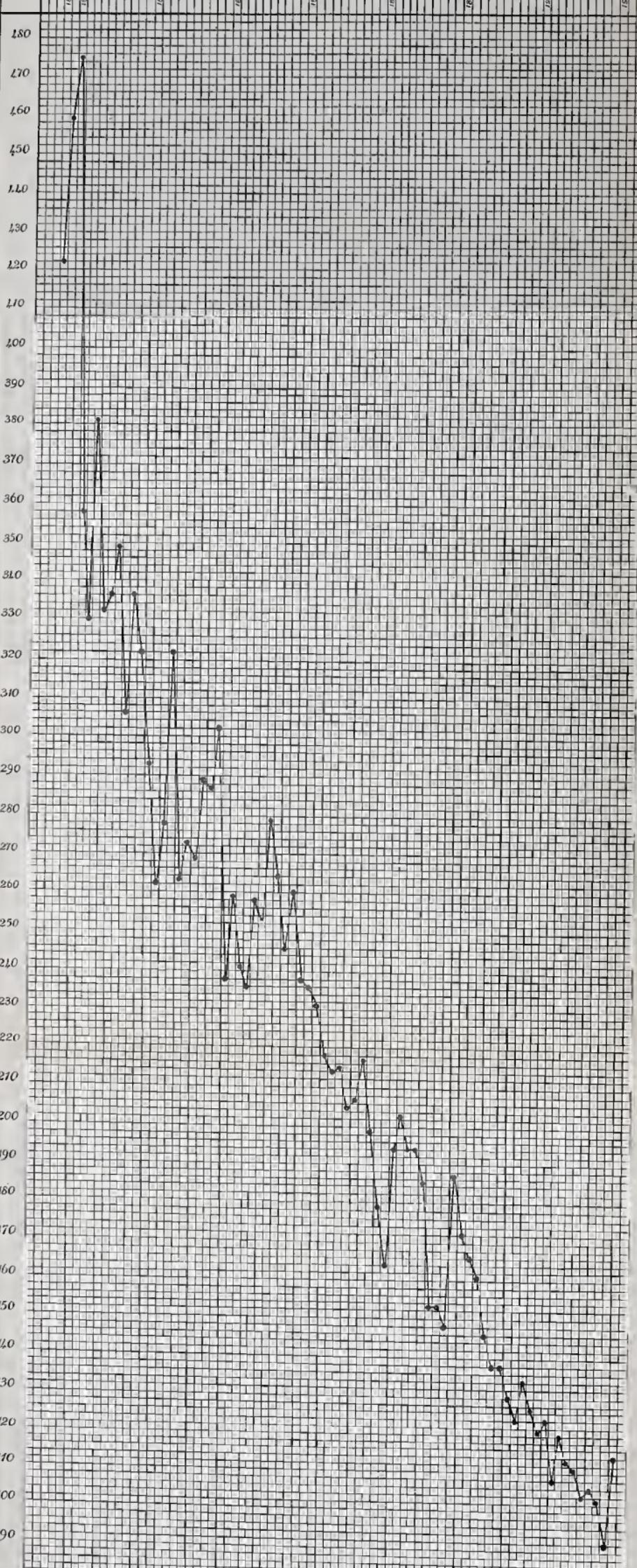
CITY OF BRISTOL

DEATH RATES PER 100000 POPULATION.

COMBINED DISTRICTS:-

BEDMINSTER.  
BRISTOL.  
CLIFTON.

CITY OF BRISTOL.



### Municipal Action for the Control of Tuberculosis.

#### A. PAMPHLET ADVICE.

The first definite action was taken in 1891, when a pamphlet of Instructions for Patients, based on the New York Regulations, was issued, this was reprinted in 1892, 1893 and 1894, and was re-issued in 1899. In 1904, by direction of the Council, 80,000 copies of a revised pamphlet were issued, as far as possible, to every house in the City.

#### B. SPUTUM FLASKS.

In this year also, Sputum Flasks were issued, first by the St. John's Ambulance Brigade, later (in 1906) by the Health Committee :—

Year.	No. of Flasks provided.	Bottles of Disinfectant Solution.
1904	—	13
1905	—	79
1906	21	562
1907	46	375
1908	35	499
1909	29	687
1910	46	720
1911	69	834

#### C. REGULATIONS AGAINST SPITTING.

In 1903 the Bristol City Council adopted the following Bye-Law :—

“A person shall not spit on the floor, side or wall  
 “of any Public Carriage, or of any Public Hall,  
 “Public Waiting-room, or Place of Public Enter-  
 “tainment, whether admission thereto is obtained  
 “upon payment or not. Any person offending  
 “against this Bye-Law shall be liable to a fine not  
 “exceeding £1.”

Copies of this Bye-Law have been widely distributed.

#### D. NOTIFICATION.

Voluntary notification was adopted by the City Council, and came into force on September 7th, 1905. Compulsory notification, under the Public Health (Tuberculosis) Regulations, in regard to Poor Law cases came into force in 1908; and under the Public Health (Tuberculosis in Hospitals) Regulations in 1911.

TABLE SHOWING NOTIFICATION RETURNS.

Year.	Voluntary.	Poor Law (Compulsory).	Hospitals (Compulsory).	Total.
1905	330			330
1906	703			703
1907	542			542
1908	516			516
1909	395	173		568
1910	361	174		535
1911	327	196	456	979

Enquiries are made by the District Inspectors into all cases unless specially exempted, and disinfection of premises or articles is secured wherever possible with consent.

#### E. DISINFECTION CARRIED OUT IN HOUSES OF PHthisis CASES.

Year.	ROOMS.		BEDDING, ETC.	
	After Notified Cases.	After Fatal Cases.	After Notified Cases.	After Fatal Cases.
1905	49	218	36	134
1906	293	250	137	162
1907	195	214	90	110
1908	211	210	119	136
1909	224	228	132	148
1910	222	200	128	124
1911	303	218	201	159
Totals	1497	1538	843	973

## F. NOTIFICATION OF CHILDREN ATTENDING SCHOOL.

(Number attending Schools, 1911—60,295).

Year.	Male.	Female.	Total.
1905		15	15
1906	17	27	44
1907	11	23	34
1908	10	10	20
1909	8	6	14
1910	11	10	21
1911	23	41	64

## G. SANATORIUM PROVISION FOR EARLY CASES.

The Corporation have acquired and maintain 21 beds in Winsley Sanatorium. The Sanatorium was opened in December, 1904, and the first Bristol patient was admitted on February 27th, 1905.

The total applications for admission received in the seven years, 1905–1911, have been :—

Males ..	699
Females ..	478
<hr/>	
	1,177

and up to the end of 1911, 493 applicants gained admission, and 684 were unable to be admitted, either through lack of room, or because the cases were too far advanced, or application had been withdrawn.

#### H. AFTER HISTORY (Condition on Jan. 1st, 1912).

The after-history of Winsley cases has been carefully followed up, and it appears that, up to the end of 1911, of 400 patients discharged from the Bristol maintained beds :—

- 153 Died.
- 104 Could not be traced.
- 143 were alive, of whom
- 100 maintained working capacity,
- 43 were not able to work.

Assuming that one half (52) of those who could not be traced needed further treatment upon discharge, as did those 153 who subsequently died, and the 43 who, though alive, were unable to work, we obtain a total of 248 in six years, or an annual figure of 41 suitable candidates for after treatment upon a Farm Colony or similar institution.

In addition to these 4<sup>1</sup>, about 100 applicants are rejected yearly, so that there is obviously need for consideration as to the sufficiency of the present means at the disposal of the Corporation.

The provision of Sanatorium treatment for early cases is a most important special means of dealing with Tuberculosis ; its influence is far reaching, as it not only benefits the actual patient but spreads practical knowledge as to the proper home-treatment of such cases, and is thus widely educational.

#### I. ADVANCED CASES.

Supposing the above number of cases to be provided for by treatment at Winsley or on Farm Colonies, there would yet be a number of cases of a more advanced character needing attention. It is difficult to estimate the exact number of such cases, but there is little doubt that 150 beds could thus be usefully employed.

Newsholme has advanced the view that the segregation of advanced cases is of the utmost importance as a preventive measure, and that in the improved and more general institutional treatment of such cases we have the means ready to hand from which the greatest quietening of the rate of decline of the death rate from this disease can be expected.

A certain amount of provision for advanced cases is already made by the Bristol Guardians at Stapleton and Eastville Workhouses, and further provision in this direction is contemplated.

It is generally held that such accommodation should preferably be provided in some institution distinct from the Workhouse buildings, so that the taint of pauperism which hinders many self-respecting workers from taking advantage of isolation, may be avoided.

#### J. PATHOLOGICAL DIAGNOSIS.

Arrangements have been in force from 1904 onwards for the bacterial diagnosis of Tuberculosis at the expense of the Health Committee.

Year.	Examination of Sputum.	Positive Results.
1904	6	
1905	167	79
1906	621	196
1907	592	169
1908	616	174
1909	692	205
1910	716	209
1911	738	180

#### K. CONTROL OF MILK SUPPLIES.

A special Inspector of Dairies, Cowsheds and Milkshops has been appointed since 1890, and deals with the whole area of the enlarged City (17,289 acres).

Dairy Regulations are in force, giving powers of inspection and control for Dairies, etc., within the City.

In the Bristol Corporation Act, 1905, provisions are inserted placing penalties upon any person knowingly selling Tuberculous milk within the City, neglecting to segregate a Tuberculous cow, or failing to send notice to the Medical Officer of Health that he has a Tuberculous cow ; and giving power to the Medical Officer of Health to take within the City samples of milk, also outside the City, after obtaining a Justice's order ; and to inspect, with the aid of a Veterinary Surgeon, cows in any dairy within the City for Tuberculosis of the udder, and powers for dealing with dairies within or without the City suspected of causing Tuberculosis in persons residing within the City.

In 1899 an examination for Tuberculosis was made of milk from all farms supplying the City, and out of 74 samples examined by the inoculation test, four showed the presence of Tuberculosis. A re-examination on similar lines has recently been authorised by the Health Committee and during 1911, 52 samples were examined by the inoculation test, all of which gave negative results.

Milk contracts for the City Hospitals are framed on lines protective against Tuberculosis.

#### L. MEAT SUPPLIES.

There are 99 Private Slaughter Houses in the City (60 with permanent licences and 36 with annual licences). Two Meat Inspectors are employed in inspecting these premises.

In all meat contracts for the City Hospitals a clause is inserted that the whole of the meat supplied shall be from animals free from Tuberculosis or any other disease.

Examination of all cargoes of imported Foodstuffs is now in force under the Public Health (Regulations as to Food) Act, 1907, and a specially qualified Inspector has been added to the Port Staff for this purpose.

#### M. HOUSING CONDITIONS—OVERCROWDING.

The local Regulations in force provide as follows :—

BYE-LAWS.	Cubic feet
Common Lodging Houses—	
Sleeping rooms (2 children under 10 equal to 1 lodger) .. .. .. ..	300
Houses let in lodgings—	
Room used exclusively as sleeping room	300
Room not used exclusively as sleeping room	400
Workshops (Factory & Workshop Act, 1901, and subsequent Orders of Secretary of State), For each employé .. ..	250
Ditto, during overtime, or used for sleeping places .. .. .. ..	400
Underground Bakehouses—during overtime	500

Two Inspectors of Workshops have since 1897 given special attention to these places. One of them is now transferred to a District.

Lodging Houses and Bakehouses are controlled by a special Inspector, and recently a special Inspector has been appointed for tenement houses.

The recent provisions of the Town Planning Act, 1909, require further and more regular and complete inspection and control over housing of the poor, and Regulations have already been issued for ensuring the systematic exercise of such control.

The Act itself provides that, in the case of houses or parts thereof, the rent of which does not exceed £26, the condition is implied that at the time of letting they are reasonably fit for habitation, and that they will be kept fit throughout the holding.

On October 21st, 1910, the Health Committee asked for a special report as to the causation and incidence of Tuberculosis in the City, and as to the possible and best method of preventing and treating the disease.

I accordingly prepared a Report, subsequently printed and circulated, dealing first with the general facts as to causation and transmission of the disease, and secondly with the steps already taken in the City to deal with the question.

It appeared from considerations brought forward in this report that there are roughly about 2,000 cases of Tuberculosis of the Lungs (Phthisis—Consumption) in the City; and incidentally that the Sanatorium and hospital provision at present available, though on the right lines, is inadequate.

In considering desirable lines for more effective dealing with Tuberculosis, the excellent work already achieved in Edinburgh by the Anti-tuberculosis Dispensary, established for some years in connection with the Victoria Hospital by Dr. R. W. Philip, arrested attention, and the establishment of such an institution demands careful consideration.\*

### Notification 1911.

TABLE I. (CASES).

327	Cases were notified under the Voluntary System during the year 1911
196	Cases were notified under the Public Health (Tuberculosis) Regulations, 1908, during the year 1911.
456	Cases were notified under the Public Health (Tuberculosis in Hospitals) Regulations, 1911.
<hr/>	
979	Total number notified.

One hundred and ninety-eight of the Poor Law Hospital cases were previously notified under the Voluntary System—and are not included in these tables.

In 540 Cases, Disease was reported as Phthisis of Lungs.	
„ 149 „ „ „	limited to Right Lung.
„ 92 „ „ „	limited to Left Lung.

\* The Bristol Dispensary for the Prevention of Consumption was established by a Special Committee of the Civic League at 4 Redcliffe Parade, West, commenced work on February 19th, 1912, and was opened by the Lord Mayor of Bristol on April 17th, 1912.

TABLE II. (CASES).

## Occupation of Notified Cases.

Occupation.		Male.	Female.	Total
Agents, Canvassers, etc.	..	12	—	12
Asylum Attendant	..	—	1	1
Artificial Flower Maker	..	1	—	1
Barbers	..	2	—	2
Baskets, Brushes, etc.	..	2	3	5
Bakers	..	3	—	3
Boots, Shoes, and Leather	..	20	3	23
Butcher	..	1	—	1
Boxmaker	..	—	1	1
Casual Worker	..	1	—	1
Clerks	..	16	1	17
Candle Maker	..	1	—	1
Colliers	..	2	—	2
Cocoa	..	2	6	8
Chimney Sweeps	..	2	—	2
Clothing, Tailoring and Cotton	..	4	31	35
Chemist	..	1	—	1
Domestic Servants	..	—	21	21
Drivers	..	16	—	16
Drover	..	1	—	1
Dustmen	..	4	—	4
Errand Boy	..	1	—	1
Florists	..	4	—	4
Gas Workers	..	2	—	2
Hawkers	..	7	—	7
Housewives	..	—	137	137
Home	..	—	12	12
Holy Orders	..	1	—	1
His Majesty's Army	..	1	—	1
Iron Workers	..	17	—	17
Jeweller	..	1	—	1
Joiners, Carpenters, Cabinet Makers	..	17	—	17
Labourers	..	113	—	113
Lamplighter	..	1	—	1
Lanndry	..	1	2	3
Masons	..	4	—	4
No Oecupation	..	11	23	34
Painters	..	9	—	9
Paper, Printing, Stationery	..	—	23	23
Plasterers	..	2	—	2
Post Office	..	3	1	4
Potters	..	6	1	7
Publicans, Barmen, etc.	..	10	—	10
Prison	..	1	—	1
Reserves (Army and Navy)	..	6	—	6
Railway	..	4	—	4
Rope	..	1	—	1
Rag	..	—	1	1
Sea	..	7	—	7
School	..	23	41	64
Shop Assistants	..	10	4	14
Street Musicians	..	3	—	3
Stage	..	1	—	1
Teachiers	..	—	6	6
Tobacco	..	6	10	16
Waitresses	..	—	4	4
Warehouse	..	2	—	2
Upholsterers	..	2	—	2
		—	—	—
		368	332	700
		—	—	—
Outside City Cases	..	52		
Institution Cases	..	29		
Cases Previously Reported	..	198		
		—	—	—
TOTAL	..	979		

TABLE III. (CASES).

**Table Showing number of Persons in Affected House.**

## FAMILIES IN HOUSE.

## **ROOMS IN HOUSE.**

## **CONDITION OF HOUSE AS TO "CLEANLINESS,"**

"DAMPNESS, VENTILATION & REPAIR," & "DRAINAGE."

		Re- ported Good.	Re- ported Fair.	Re- ported Bad.	Institu- tions.	Outside City Cases	Previously Reported.	Totals.
Cleanliness	..	206	466	28	29	52	198	979
Dampness, Ventilation and Repair	..	170	513	17	29	52	198	979
Drainage	..	196	488	16	29	52	198	979

48 Notices were issued.

Houses classed as "good" or "fair," may be deemed satisfactory; no action was required in either group.

## TABLE IV. (CASES).

## Common and Institution Lodging House Cases.

Notified in Common Lodging Houses. . .	15	Cases
Notified in Institution Lodging Houses	2	"
Total number notified . . . . .	17	"

## Milk.

659 Cases—Name of milkman reported.	
80 " Obtained from casual sellers.	
42 " Used Condensed Milk.	
242 " Milk was boiled before use.	

## Disinfection, etc.

18 Cases—Clothing was disinfected.	
183 " Bedding was disinfected.	
303 " Rooms were disinfected.	
" Refused. In many cases the people would like disinfection to be carried out but could not owing to state of health of patient.	

## Sputum Flasks, etc.

69 Sputum Flasks were supplied.	
834 Bottles of Disinfectant Solution were supplied.	

## Schools.

64 Cases attended the Elementary Day Schools.	
---	--

## TABLE V. (DEATHS).

## Enquiry into 410 Deaths returned from Phthisis.

306 Cases died at Home.	
45 " " Stapleton Workhouse.	
13 " " Eastville Workhouse.	
13 " " Asylum.	
26 " " Southmead Workhouse.	
7 " Other Institutions.	
—	
410	

## Year of Notification of 410 Fatal Cases:—

7 Deaths occurred amongst cases notified in 1905	
6 " " " "	1906
5 " " " "	1907
19 " " " "	1908
32 " " " "	1909
70 " " " "	1910
148 " " " "	1911
123 " " " not notified.	
—	
410	

TABLE VI. (DEATHS).

## Showing Occupations of 410 Fatal Cases.

Occupation.	Males.	Females.	Total
Asylum Attendant .. . . .	1	—	1
Baker .. . . .	1	—	1
Boots, Shoes, Leather Workers .. . . .	12	2	14
Brush Makers .. . . .	2	—	2
Canvassers, Agents .. . . .	5	—	5
Coal .. . . .	1	—	1
Cocoa .. . . .	1	2	3
Clerks .. . . .	16	2	18
Clothing .. . . .	7	17	24
Chemists .. . . .	2	—	2
Dentist .. . . .	1	—	1
Dairy .. . . .	1	—	1
Drivers of Horses .. . . .	2	—	2
Drover .. . . .	1	—	1
Domestic Servants .. . . .	1	18	19
Feather Dresser .. . . .	—	1	1
Gas Worker .. . . .	1	—	1
Gardener .. . . .	1	—	1
Glass .. . . .	1	—	1
Hawkers .. . . .	6	—	6
Housewives .. . . .	—	101	101
Homic .. . . .	—	5	5
Iron Workers, Engineers .. . . .	11	—	11
Jewellers .. . . .	2	—	2
Joiners, Carpenters, Woodworkers, etc. .. . . .	7	—	7
Laundresses .. . . .	—	3	3
Labourers .. . . .	39	—	39
Maltster .. . . .	1	—	1
Masons .. . . .	6	—	6
Navy and Army Reservists .. . . .	2	—	2
No Occupation .. . . .	5	16	21
Painters, Decorators, French Polishers .. . . .	7	—	7
Paper, Printing, Stationery .. . . .	7	10	17
Publicans, Barmen, etc. .. . . .	9	—	9
Plasterer .. . . .	1	—	1
Pottery .. . . .	1	1	2
Post Office .. . . .	2	—	2
Railway Men .. . . .	6	—	6
Rope Maker .. . . .	1	—	1
Seamen .. . . .	7	—	7
Seed Packer .. . . .	—	1	1
Stage .. . . .	2	—	2
School .. . . .	3	13	16
Shop Assistants .. . . .	4	5	9
Trains .. . . .	2	—	2
Tobacco .. . . .	5	11	16
Teachers .. . . .	—	6	6
Verger .. . . .	1	—	1
Soap .. . . .	1	—	1
Waitress .. . . .	—	1	1
	—	—	—
	195	215	410
	—	—	—

## Disinfection, etc.

25 Cases—Clothing was Disinfected.

134 " Bedding was Disinfected.

218 " Rooms were Sprayed.

## WINSLEY SANATORIUM.

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### City Maintained Beds, 1911.

During the year 99 Males and 59 Females made application.

The ages of these 158 applicants were 6 under 15 ; 67 at ages 15 to 25 ; 85 at ages 25 to 65.

Admitted to the Sanatorium 38 Males, 34 Females.  
Total 72.

Period of time (in weeks) from date of receipt of application to date of admission.

1 Case waited	2 weeks.
4 ,," ,,"	5 ,,"
1 ,," ,,"	6 ,,"
3 ,," ,,"	7 ,,"
6 ,," ,,"	8 ,,"
5 ,," ,,"	9 ,,"
4 ,," ,,"	10 ,,"
4 ,," ,,"	11 ,,"
1 ,," ,,"	12 ,,"
4 ,," ,,"	13 ,,"
4 ,," ,,"	14 ,,"
1 ,," ,,"	15 ,,"
8 ,," ,,"	16 ,,"
1 ,," ,,"	17 ,,"
5 ,," ,,"	18 ,,"
1 ,," ,,"	19 ,,"
4 ,," ,,"	20 ,,"
1 ,," ,,"	21 ,,"
2 ,," ,,"	22 ,,"
1 ,," ,,"	23 ,,"
2 ,," ,,"	25 ,,"
1 ,," ,,"	26 ,,"
2 ,," ,,"	27 ,,"
1 ,," ,,"	29 ,,"
1 ,," ,,"	31 ,,"
1 ,," ,,"	32 ,,"
1 ,," ,,"	43 ,,"
1 ,," ,,"	46 ,,"
1 ,," ,,"	52 ,,"

---

 72 average— 15 weeks 6 days.

Discharged from Sanatorium 38 Males, 30 Females.  
Total 68.

The "Class" in which the 68 Discharged cases were placed on admission to the Institution. (Winsley Resident Medical Officer's selection).

Class I.	Cases 23
„ II.	„ 17
„ III.	„ 22
„ IV.	„ 1
Unclassified	5
	—
	68
	—

### After History.

#### AFTER HISTORY OF PATIENTS TREATED IN THE BRISTOL MAINTAINED BEDS AT WINSLEY SANATORIUM.

Year of Discharge.	Total No. Dis- charged.	Alive on 31st December, 1911.	Well and working capacity main- tained.	Where- abouts unknown.	Dead.
1905	45	10	6	8	27
1906	67	16	13	11	40 —,4
1907	68	29	23	23	16
1908	78	29	16	19	30
1909	75	30	22	25	20
1911	67	29	20	18	20

The following Table shows how the 158 applications were dealt with :—

50 ..	" Selected " and " Admitted."
42 ..	Not accepted by Committee.
4 ..	Rejected by Medical Consultative Board as " not suitable."
30 ..	Withdrawn.
17 ..	Waiting admission on 31st December, 1911.
15 ..	Died since receipt of application.
<hr/>	
158	Total.

**Condition stated upon Discharge.**

51 ..	Discharged improved.
5 ..	Discharged little improved.
10 ..	Discharged not improved.
1 ..	Died at Winsley Sanatorium.

<hr/>	68 Total.
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I am, my Lord Mayor and Gentlemen,  
Your obedient Servant,  
D. S. DAVIES, M.D., D.P.H.

*Medical Officer of Health for the City and County of Bristol, and for the Port of Bristol; General Medical Superintendent City Hospitals; Lecturer on the Principles and Practice of Public Health, University of Bristol (Medical School); and Internal Examiner in Public Health to the University; Past-President of the Society of Medical Officers of Health; of the Bath and Bristol Branch of the British Medical Association; and of the Bristol Medico-Chirurgical Society; formerly Examiner in State Medicine (M.D. Examination), University of London; Member of Board of Examiners of the Royal Sanitary Institute; Late Medical Inspector (on Cholera Survey and General Sanitary Survey of England) to H.M. Local Government Board; Surg. Col. (retd.), V.D. 1st Glos. R.G.A. (V.); Lt. Col. R.A.M.C Sanitary Service Territorial Force; etc.*

June, 1912.

**CITY OF BRISTOL.**


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January 3rd, 1912.

**PUBLIC HEALTH (TUBERCULOSIS) REGULATIONS, 1911.****NOTICE TO INSPECTORS.****Special Action.**

When visiting Pulmonary Tuberculosis cases, the Inspector should report to the Medical Officer of Health any steps that may appear to him to be necessary or desirable for preventing the spread of infection, and for removing conditions favourable to infection.

**Cards.**

Every detail upon the small Phthisis card must now be filled in, and special care taken to enter the names of the schools attended by children who live in a house from which a case of Phthisis has been notified. Sunday Schools and other Meetings to be noted.

The School Card should be filled up without delay, and handed in for transmission to the School Medical Officer.

**The Position of Persons Notified.**

Tuberculosis of the Lung is usually a chronic disease, the infection is limited, and infection can be prevented by the patient himself, when he has learnt, and is not too ill to practise, elementary precautions. This is the reason for the issue of a special code of Regulations under Section 130 of the Act of 1875. The fact that the patient may be trained, and may as a result cease to be a source of infection, in which case he need be subjected to no disability, should be made clear to the patient.

It is, of course, unnecessary and undesirable that notification should involve publicity. The Local Government Board have no doubt that Local Authorities and their officers will avoid doing anything which would cause pain or annoyance to patients or their friends. It cannot be too strongly emphasised that any records in relation to persons notified should be regarded as strictly confidential documents, for whose custody the Medical Officer of Health is personally responsible.

(Signed), D. S. DAVIES, M.D.

TABLE B. Showing Population, Births, Marriages, and Deaths, and Birth and Death Rates in Bristol,  
for the 25 Years, 1887-1911. (All figures revised on 1891 Census).

Estimated Population.	Registered Births.	•Marriages in the District of the Bristol Union.	Total Deaths at all Ages.	DEATHS.			ANNUAL RATES.		
				Under year.	Over 1 and under 5.	Over 60.	Birth Rate per 1000.	Death Rate per 1000.	Infantile Mortality to 1000 Births.
							In Public Institutions		
1887	215,694	956	4,542	996	796	1,244	6.80	21.0	3.0
1888	215,266	981	3,816	824	432	1,138	7.10	17.5	1.3
1889	218,848	932	4,021	976	595	1,062	6.60	30.5	2.2
1890	220,442	1,033	4,532	991	597	1,265	7.30	30.0	2.1
1891	222,049	937	4,631	972	603	1,371	8.15	30.3	1.7
1892	223,592	6,563	973	4,331	953	634	1,197	29.3	145.2
1893	225,028	6,788	955	4,241	959	411	1,283	30.1	18.8
1894	226,578	6,393	920	3,888	848	524	1,077	28.8	17.1
1895	228,139	6,622	846	4,108	935	414	1,321	29.0	18.0
1896	230,626	6,537	863	3,960	908	476	1,130	27.8	16.8
1897	232,242	6,514	884	3,988	949	434	1,195	28.0	17.1
1898	316,900	9,061	837	5,441	1,491	795	1,455	28.5	17.1
1899	320,911	9,336	2,714	5,844	1,467	567	1,781	1,049	18.2
1900	324,973	8,972	2,839	5,397	1,185	673	1,561	968	27.6
1901	329,086	8,889	2,786	5,249	1,159	558	1,379	1,039	27.0
1902	334,632	9,368	2,827	5,905	1,225	965	1,351	1,173	27.4
1903	338,895	9,239	2,738	4,822	1,075	467	1,189	1,094	27.2
1904	343,204	9,145	2,894	5,347	1,222	545	1,386	1,162	26.6
1905	358,515	9,649	2,870	5,286	1,182	623	1,336	1,197	26.9
1906	363,223	9,372	2,793	5,299	1,196	495	1,414	1,188	25.8
1907	367,979	8,915	2,793	4,897	900	327	1,500	1,211	24.2
1908	372,785	8,752	2,806	5,230	1,102	509	1,522	1,247	23.0
1909	377,642	8,507	2,670	4,869	860	375	1,518	1,288	22.5
1910	382,550	8,258	2,670	4,523	746	293	1,474	1,283	21.5
<b>1911</b>	<b>357,509</b>	<b>7,751</b>	<b>5,537</b>	<b>2,763</b>	<b>1,107</b>	<b>558</b>	<b>1,460</b>	<b>21.0</b>	<b>15.4</b>
									<b>142.8</b>
									<b>20.2</b>

\* Previous to 1899 this includes the Registration Sub-Districts of St. Mary Redcliff, Castle Precincts, St. Paul, St. James, and St. Augustine only.

+ The Marriages for 1899 were for the first time given for an area co-extensive with the whole enlarged City.

§ Over 65, according to the new age grouping in the L.G.B. Tables.

TABLE C. Showing Number of Deaths from Zymotic Diseases in Bristol, during the 25 years, 1887-1911.  
Enlarged City.

	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1	10	1911
Small Pox ...	13	26	...	...	1+	...	2+	168	...	5	1	...	...	...	...	1	3	1	...	...	1	...	9†	...	...	
Diphtheria ...	23	26	15	16	16	38	53	50	34	38	36	44	33	103	124	189	119	105	59	82	65	69	55	38	38	42
(including M.Croft)																										
Erysipelas ...	10	21	16	9	12	21	11	8	16	10	5	6	13	12	21	12	8	9	8	7	3	6	3	7	9	
Scarlet F. ...	217	45	26	40	37	47	35	16	16	59	18	14	13	39	36	66	49	36	39	27	26	10	12	12	16	
Typhus ...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Enteric F. ...	23	28	38	33	23	18	26	21	22	20	47	26	35	44	40	59	21	26	13	21	15	10	12	9	18	
Puerperal F.*	9	17	11	12	7	25	16	11	8	8	6	11	22	20	17	17	14	16	6	14	11	7	17	14	10	
Measles ...	147	61	185	92	239	105	25	116	8	143	57	309	38	290	7	411	11	9‡	180	140	36	96	90	32	164	
Wh. Cough...	124	38	105	201	53	154	80	177	45	64	118	110	118	54	189	105	65	110	123	102	26	128	56	66	142	
Diarrhoea ...	117	68	131	96	58	99	125	65	143	106	153	348	345	165	134	110	107	206	169	213	133	154	116	76	407	

\* Previous to 1884, Puerperal Fever was not separated in the Local returns from Puerperal Diseases generally.

† This death occurred in the Novers Hill Hospital outside the City, and so did not appear in the General Returns.

‡ Of these deaths one occurred in the Novers Hill Hospital, outside the City, and so did not appear in the General Returns.

§ Of these deaths five occurred in the Novers Hill Hospital, outside the City, and so did not appear in the General Returns.

|| This death occurred on the Hospital Ship, Avonmouth. Patient was admitted from Keynsham Workhouse, outside the City.

¶ Including one death which occurred at Cossham Hospital, admitted from Chipping Sodbury Rural District.

## CITY OF BRISTOL.

## Infectious Disease (Notification Act), 1889.

Notifications received during each Quarter of 1911

1911.—Table a.

NOTIFIABLE DISEASE	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	Total of each disease.
Small Pox ...		...	...	...	
Cholera. Choleraic Diarrhoea ...	...	...	...	...	...
Diphtheria (including Membranous Croup) ...	176	72	152	184	<b>584</b>
Erysipelas ...	66	50	56	137	<b>309</b>
Scarlet Fever ...	280	233	153	287	<b>953</b>
Typhus Fever ...	...	...	...	...	...
Enteric Fever ...	16	10	95	27	<b>148</b>
Relapsing Fever ...	...	...	...	...	...
Continued Fever ...	...	...	...	...	...
Puerperal Fever ...	10	8	1	7	<b>26</b>
Totals in each Quarter	<b>548</b>	<b>373</b>	<b>457</b>	<b>642</b>	<b>2,020</b>

## CITY OF BRISTOL.

TABLE b. Notification and Deaths registered by Sub-Districts during the year 1911.

	Small Pox.	Choleric Diarrhoea.	Diphtheria (including Meningitis Croup)	Erysipelas.	Scarlet Fever	TYPHUS.	ENTERIC TYPHOID	Relapsing.	Continued Cases Deaths	PUER- PERAL.	Cases Deaths	Total cases in each Sub-District.
Ashley	...	...	...	83	4	25	1	233	1	2	2	354
Bedminster	...	...	...	104	5	48	1	90	1	4	1	261
Bristol Central	...	...	...	40	5	32	97	2	11	2	1	246
Clifton	...	...	...	59	5	32	64	3	73	5	1	172
Knowle	...	...	...	24	1	14	28	1	14	1	2	70
St. George	...	...	...	111	7	53	1	157	5	2	5	341
St. Philip	...	...	...	97	12	56	3	87	1	6	2	257
Stapleton	...	...	...	25	1	23	149	2	8	2	2	199
Westbury-on-Trym	...	...	...	15	1	5	16	...	7	2	37	70
Public Insts.	...	...	...	21	...	20	3	20	...	...	26	25
Admitted to Public Insts. from outside of Borough	...	...	...	5	1	1	12	...	148	...	26	2,020
Total cases of each disease	...	...	...	584	...	309	953	...	18	...	10	95
Total deaths from each disease ...	...	...	...	42	9	16	16	...	121	...	36·1	4·5
Percentage of deaths to known cases ...	...	...	...	7·1	2·9	1·6	1·6	...	...	...	...	...

CITY OF BRISTOL.

NOTIFICATION—1911.

TABLE C. Showing the number of cases of Infectious Disease notified under the Infectious Disease Notification Act, 1889, since its adoption in 1890.

	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911
Small Pox ...	0	16	0	165	201	4	42	10	2	0	0	1	6	46	34	13	32	6	1	38	4	0
Diphtheria (including Mem-branous Croup).	56	70	106	141	128	165	258	205	215	506	908	1,109	1,134	1,051	1,021	839	926	924	712	556	584	
Erysipelas ...	105	135	196	230	154	195	246	203	263	337	342	392	376	244	256	303	239	244	223	199	177	309
Scarlet Fever ...	559	888	1,442	1,245	485	562	1,352	511	382	697	1,957	2,206	2,724	2,168	1,258	1,085	1,019	886	486	692	1,216	953
Typhus... ...	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Enteric Fever...	122	117	135	122	90	89	110	350	113	219	285	281	319	134	172	76	120	74	103	66	85	148
Continued or Doubtful Fever	6	8	3	6	1	1	2	0	0	2	2	1	0	0	0	0	0	0	0	0	0	0
Puerperal Fever	11	11	34	30	18	16	21	10	18	36	46	43	39	31	27	30	37	36	22	36	39	26

TABLE I.  
Vital Statistics of Whole District during 1911 and Previous Years.  
CITY OF BRISTOL.

YEAR.	Population estimated to Middle of each Year.	BIRTHS.		TOTAL DEATHS REGISTERED IN THE DISTRICT.				TOTAL DEATHS IN PUBLIC INSTITUTIONS IN THE DISTRICT.	Deaths of Non-Residents registered in Public Institutions beyond the District.	Deaths of NETT DEATHS AT ALL AGES BELONGING TO THE DISTRICT.			
		Under 1 Year of Age.		At all Ages.									
		Number.	Rate per 1000 population.	Number.	Rate per 1000 population.								
1	2	3	4	5	6	7	8	9	10	11	12		
1901	...	329,086	8,889	27.0	1,159	130.4	5,249	15.9	79	5,170	15.7		
1902	...	334,632	9,368	27.4	1,225	130.7	5,905	17.3	115	5,790	16.9		
1903	...	338,895	9,239	27.2	1,075	116.3	4,822	14.2	109	4,704	13.8		
1904	...	343,204	9,135	26.6	1,222	133.7	5,347	15.5	109	5,238	15.2		
1905	...	358,515	9,649	26.9	1,182	122.4	5,286	14.7	1,197	4	5,193	14.4	
1906	...	363,223	9,372	25.8	1,196	127.6	5,299	14.5	1,188	101	2	5,200	14.3
1907	...	367,979	8,915	24.2	900	100.9	4,897	13.3	1,211	113	1	4,785	13.0
1908	...	372,785	8,753	23.0	1,102	125.8	5,230	13.7	1,247	131	10	5,109	13.4
1909	...	377,642	8,507	22.5	860	101.0	4,869	12.8	1,288	130	6	4,745	12.5
1910	...	382,550	8,258	21.5	746	90.3	4,523	11.8	1,253	146	8	4,385	11.4
Averages for years 1901-1910		356,851	9,008	25.24	1,066	118.4	5,142	14.4	1,188	113	*	5,031	14.1
1911	...	357,509	7,751	21.00	1,107	142.8	5,537	15.4	1,460	160	53	5,430	15.1

\*The information required is not available.

Note.—The deaths to be included in Column 7 of this table are the whole of those registered during the year as having actually occurred within the district or division. The deaths to be included in Column 12 are the number in Column 7, corrected by the subtraction of the number in Column 10 and the addition of the number in Column 11.

By the term "Non-residents" is meant persons brought into the district on account of sickness or infirmity, and dying in public institutions there; and by the term "Residents" is meant persons who have been taken out of the district on account of sickness or infirmity, and have died in public institutions elsewhere.

The "Public Institutions" to be taken into account for the purposes of these Tables are those into which persons are habitually received on account of sickness or infirmity, such as hospitals, workhouses and lunatic asylums. A list of the Institutions in respect of the deaths in which corrections have been made should be given on the back of this Table.

Area of District in acres (exclusive of area covered by water)  $\frac{1}{11},705$

Total population at all ages .. .. ..

of 1911  
Census.

357,059

I.	II.	III.
Institutions within the District receiving sick and infirm persons from outside the District.	Institutions within the District receiving sick and infirm persons from the District.	Other Institutions, the deaths in which have been distributed among the several localities in the District.
<b>ROYAL INFIRMARY.</b>	<b>ROYAL INFIRMARY.</b>	<b>CITY HOSPITALS :—</b>
<b>GENERAL HOSPITAL.</b>	<b>GENERAL HOSPITAL.</b>	<b>NOVERS HILL,</b>
<b>CHILDREN'S HOSPITAL.</b>	<b>CHILDREN'S HOSPITAL.</b>	<b>HAM GREEN,</b>
<b>COSHAM HOSPITAL.</b>	<b>COSHAM HOSPITAL.</b>	<b>CLIFT HOUSE</b> (closed July, 1906).
<b>CONVALESCENT HOME.</b>	<b>CONVALESCENT HOME.</b>	
<b>ORTHOPÆDIC HOSPITAL.</b>	<b>ORTHOPÆDIC HOSPITAL.</b>	

Municipal Institutions (within the City)—

**EASTVILLE WORKHOUSE.**

**SOUTHMEAD WORKHOUSE.**

**STAPLETON WORKHOUSE.**

**LUNATIC ASYLUM.**



CITY OF BRISTOL.

**Table II**

**Vital Statistics of Separate Localities (Registration Sub-Districts) in 1911 and previous years.**

Names of Localities.	1.—ASHLEY.				2.—BEDMINSTER.				3.—BRISTOL CENTRAL.				4.—CLIFTON.				5.—KNOWLE.				6.—ST. GEORGE.				7.—ST. PHILIP.				8.—STAPLETON.				9.—WESTBURY-ON-TRYM.			
	Year.	Population estimated to middle of each Year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each Year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each Year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each Year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each Year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each Year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each Year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each Year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.			
	a.	b.	c.	d.	a.	b.	c.	d.	a.	b.	c.	d.	a.	b.	c.	d.	a.	b.	c.	d.	a.	b.	c.	d.	a.	b.	c.	d.	a.	b.	c.	d.				
*1901 ...	42,548	877	472	73	55,838	1,984	894	248	53,001	1,082	795	194	46,820	701	552	71	8,671	401	146	37	50,501	1,798	755	248	52,269	1,477	794	208	19,438	569	257	80				
1902 ...	40,881	875	502	100	61,672	2,087	968	237	44,744	1,131	829	176	44,260	665	591	77	13,709	452	199	56	58,194	1,842	884	253	48,891	1,665	997	258	22,191	607	214	60				
1903 ...	42,039	943	462	92	63,142	2,041	797	229	43,726	1,065	618	139	44,435	660	494	56	14,058	451	153	39	59,738	1,822	747	214	48,986	1,614	711	203	22,771	553	260	64				
1904 ...	42,842	894	411	75	64,505	2,003	850	243	42,793	1,027	706	157	44,446	688	556	68	14,679	522	200	65	61,670	1,779	853	273	48,810	1,545	814	238	23,459	575	241	62				
1905 ...	44,144	921	445	86	65,877	2,072	826	234	41,864	1,042	771	162	41,462	702	558	69	15,302	548	199	50	63,612	1,792	759	216	48,639	1,586	735	226	24,151	556	222	68				
1906 ...	45,023	906	468	72	67,261	1,981	865	256	40,936	1,024	665	178	44,483	696	541	75	15,928	530	210	57	65,567	1,703	706	196	48,472	1,551	803	238	24,847	555	251	57				
1907 ...	45,909	908	469	68	68,652	1,937	775	195	40,011	920	621	109	44,504	620	507	67	16,558	512	214	44	67,533	1,551	623	144	48,310	1,494	648	156	25,547	569	275	56				
1908 ...	46,802	837	501	81	70,055	1,765	787	217	39,087	957	628	156	44,539	634	530	58	17,191	504	197	49	69,511	1,635	720	198	48,152	1,413	757	229	26,252	589	216	57				
1909 ...	47,702	803	485	59	71,469	1,736	709	175	38,165	915	621	129	44,573	670	542	65	17,828	487	172	26	71,501	1,541	635	154	47,999	1,448	621	153	26,961	524	238	47				
1910 ...	50,361	799	412	46	69,389	1,623	619	143	37,110	937	509	99	46,647	686	518	68	18,430	466	181	31	71,591	1,512	605	145	49,653	1,384	567	139	27,676	506	215	29				
Averages of Years 1901 to 1910	44,825	876	462	75	65,786	1,922	789	217	42,143	1,010	676	149	44,616	672	538	67	15,235	487	187	45	63,941	1,697	728	203	49,018	1,517	744	204	24,329	560	237	58				
1911 ...	† 47,378	711	524	71	† 61,176	1,579	832	226	† 38,485	867	603	141	† 42,466	640	582	76	† 20,150	447	185	46	† 58,478	1,421	793	216	† 50,215	1,259	793	207	† 26,149	492	272	63				

\* The Registration Sub-districts were so interchanged at the extension of the City in 1897, by the consequent re-arrangement of boundaries in 1898, that this Table cannot be given for previous years.

† Census, 1911



Table III

## CITY OF BRISTOL.

Cases of Infectious Disease notified during the Year ending 30th December, 1911.



Table IV

## CITY OF BRISTOL

93

Causes of, and Ages at, Death during the Year ending December 30th, 1911.

CAUSE OF DEATH.	DEATHS IN WHOLE DISTRICT AT SUBJOINED AGES.										DEATHS IN LOCALITIES AT ALL AGES.										DEATHS IN PUBLIC INSTITUTIONS. Not belonging to Borough.
	All ages.	Under 1.	1 and under 2.	2 and under 5.	5 and under 15.	15 and under 25.	25 and under 45.	45 and upwards.	Ashley	Bedminster	Bristol Central	Clifton	Knowle	S. George	S. Philip	Stapleton	Westbury- on-Trym	Municipal Institutions	Not belonging to Borough.		
SMALL-POX ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chicken Pox ...	2	2	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	6
MEASLES ...	164	26	72	53	12	1	..	..	10	38	23	1	3	35	52	1	1	..	..	..	14
SCARLET FEVER ...	16	..	1	9	6	..	..	..	1	1	2	3	1	5	1	2	..	..	..	..	11
WHOOPING-COUGH ...	142	63	40	34	5	..	..	..	12	22	19	5	1	27	47	3	..	6	..	..	30
DIPHTHERIA & CROUP ...	42	1	3	24	14	..	..	..	4	5	5	5	1	7	12	1	1	..	1	..	30
Croup ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Typhus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
FEVER { Enteric	18	..	..	..	1	2	13	2	2	2	2	5	1	..	2	2	..	..	2	2	16
Continued	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Influenza ...	27	1	..	..	..	8	7	11	3	3	1	3	..	3	5	4	..	5	..	..	5
Erysipelas ...	9	..	..	..	1	1	5	2	1	1	..	..	..	1	3	..	..	3	..	..	3
Cerebro Spinal Fever ...	4	..	..	2	2	..	..	..	..	1	..	1	..	1	..	..	..	1	..	..	2
CHOLERA ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
PLAQUE ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
DIARRHOEA ...	407	314	51	13	2	..	4	7	16	30	69	37	27	16	88	99	26	11	3	1	70
Glanders ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Anthrax ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lead Poisoning ...	1	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1
Other septic diseases ...	13	1	..	1	2	5	4	..	..	3	2	2	1	1	1	1	..	..	2	..	10
Phthisis(Pulmonary Tuberculosis)	410	4	3	3	13	86	210	85	6	34	58	29	27	13	65	51	24	6	100	3	109
Tuberculous Meningitis ...	63	25	6	14	6	8	3	1	..	9	14	7	3	3	4	6	5	..	4	8	22
Other Tuberculous diseases ...	61	9	8	5	11	12	5	9	2	7	6	3	8	3	9	12	1	..	8	4	33
Rheumatic Fever ...	24	..	..	10	4	6	4	..	1	4	4	4	..	6	1	2	..	1	1	..	5
Cancer, malignant disease ...	387	2	..	1	1	5	38	162	178	55	47	31	68	12	35	31	22	12	55	19	113
Bronchitis ...	408	55	19	13	3	1	7	78	232	36	56	70	55	10	54	70	12	6	37	2	49
Broncho-Pneumonia ...	142	52	42	22	2	1	4	4	15	9	30	19	12	4	26	23	7	6	5	1	32
Pneumonia ...	177	22	22	16	6	17	35	33	26	11	29	23	13	2	35	33	3	8	13	7	51
Pleurisy ...	16	..	..	1	2	2	2	3	6	1	4	3	1	..	1	4	1	..	1	..	3
Other diseases of Respiratory Organs ...	82	8	..	3	1	1	18	25	26	9	12	3	8	..	19	9	7	1	12	2	21
Appendicitis and Typhilitis ...	30	..	..	..	9	5	10	5	1	3	7	6	..	..	1	2	3	..	8	..	26
Gastritis ...	20	8	..	..	..	..	..	4	8	2	6	3	2	1	..	6	2	1	..	1	..
Enteritis ...	19	..	..	..	..	1	4	..	14	..	3	2	1	..	6	2	1	..	4	..	4
Other diseases of digestive system ...	147	11	6	4	4	11	30	49	32	21	15	16	16	5	19	15	9	3	9	19	70
Alcoholism ...	11	..	..	..	..	..	4	4	3	1	2	1	2	..	1	1	..	..	3	..	4
Cirrhosis of Liver ...	30	..	..	..	..	..	7	18	5	6	3	4	5	1	3	3	..	1	4	..	6
Venereal diseases ...	20	17	..	..	..	..	2	1	..	6	4	..	..	2	2	2	..	6	..	..	8
Congenital, Debility, Atrophy, Marasmus of Infants, Want of Breast Milk and Malformation, including Premature Birth ...	345	342	3	..	..	..	..	..	18	75	37	32	17	64	55	19	8	10	10	..	57
Nephritis and Bright's Disease ...	198	1	1	2	4	9	26	93	62	16	32	13	18	12	19	17	10	4	55	2	88
Other Diseases of Urinary System ...	67	1	1	..	..	1	9	13	42	7	8	10	9	1	8	7	1	2	5	9	33
Puerperal Fever ...	10	..	..	..	..	4	6	..	..	2	1	1	..	..	2	2	2	..	..	..	5
Other Accidents and Diseases of Pregnancy and Parturition ...	17	..	..	..	..	2	14	1	..	1	1	1	..	..	6	3	1	2	2	..	6
Diseases of Blood Vessels ...	371	1	..	..	3	34	109	224	37	48	48	47	15	40	43	12	10	64	7	85	
Diseases of Nervous System ...	377	82	16	10	9	15	61	76	108	29	51	29	34	14	44	29	16	7	114	10	149
Heart diseases ...	526	2	2	3	23	18	70	160	248	67	70	63	91	20	61	64	37	7	39	7	79
Accidents ...	130	3	4	7	16	17	32	18	33	7	22	12	10	4	22	16	7	6	8	16	65
Suffocation—Overlying ...	15	12	..	..	1	..	1	..	1	..	1	3	3	..	2	4	1	..	1	..	1
Homicide ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Suicide ...	20	..	..	..	..	2	6	9	3	2	4	6	2	1	1	1	..	..	3	..	5
Other Defined Diseases ...	569	42	9	8	13	18	36	69	374	70	72	58	62	24	65	62	30	14	93	19	162
Disease ill-defined or unknown ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
All causes ...	5537	1107	309	249	178	252	710	1054	1678	524	832	603	582	185	793	793	272	117	673	163	1460

## CITY RATES.

No. of Births.	Birth Rate.	DEATH RATE.			Infantile Rate.
		1911	Last Year.	10 Years' Average	
Males, Females 4083 3741	21.00	15.48	11.82	14.41	2.20 142.83

District Death Rates	11.06	13.60	15.67	13.70	9.17	13.56	15.79	10.40	9.31	...	...	...
District Birth Rates	15.00	25.80	22.53	15.07	22.18	24.20	25.06	18.81	20.70	...	...	...
Deaths of Infants under 1	71	226	141	76	46	216	207	63	18	25	18	..
Number of Births	M368	829	451	331	236	737	647	245	124	40	33	...
Infantile Rate	F.343	750	416	309	211	684	612	247	136	33	...	...
	711	1379	867	640	447	1421	1259	492	260	73	...	...
	99.85	143.12	162.62	118.75	102.90	132.00	164.41	128.04	69.23	...	...	...

Average age at Death of persons aged 65 and upwards, 75 years and 5 months.

Births of Illegitimate Children (Males 150, Females 145)—295

Deaths " (under 5) ( " 59, " 40) 99

Inquests " " " 489

Uncertified Deaths " " " 3



## CITY OF BRISTOL.

TABLE V. INFANTILE MORTALITY during the Year ending 30th December, 1911.

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Deaths from Stated Causes in Weeks and Months under One Year of Age.

CAUSE OF DEATH.	Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-2 Months.	2-3 Months.	3-4 Months.	4-5 Months.	5-6 Months.	6-7 Months.	7-8 Months.	8-9 Months.	9-10 Months.	10-11 Months.	11-12 Months.	Total Deaths under 1 Year.
All Causes—																	
Certified .....	198	65	59	41	363	96	88	86	73	64	72	70	47	46	49	49	1103
Uncertified .....	4	..	..	..	4	..	..	..	..	..	..	..	..	..	..	..	4
Small-pox .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chicken-pox .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Measles .....	..	..	..	..	..	..	..	1	..	..	1	..	3	3	2	5	11
Scarlet Fever .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diphtheria and Croup .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Whooping Cough .....	..	..	..	1	1	3	5	5	3	4	8	3	9	5	10	7	63
Diarrhoea, all forms .....	1	3	7	3	14	25	25	39	32	23	26	25	9	14	11	11	254
Enteritis, Muco-Enteritis, Gastro-Enteritis .....	..	4	2	3	9	4	8	5	5	6	7	4	5	1	4	2	60
Tuberculous Meningitis .....	..	..	..	1	1	1	2	3	4	2	5	3	1	2	2	..	26
Abdominal Tuberculosis—																	
Tuberculous Peritonitis, Tuberculous Enteritis,	..	..	..	..	..	..	..	1	1	1	1	2	..	..	..	2	8
Tabes Mesenterica	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Other Tuberculous Diseases .....	..	..	..	2	2	..	1	..	..	..	..	..	2	..	..	..	5
Premature Birth .....	145	28	19	8	200	13	2	2	2	..	..	..	..	..	..	..	219
Congenital Malformations .....	9	2	1	3	15	..	..	..	..	..	..	..	..	..	..	..	15
Want of Breast-milk, Starvation .....	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	3
Atrophy, Debility, Marasmus .....	9	6	14	7	36	19	16	4	5	8	2	5	5	4	1	1	106
Atelectasis .....	4	..	1	..	5	..	..	..	..	..	..	..	..	..	..	..	5
Injury at Birth .....	1	1	..	..	2	..	..	..	..	..	..	..	..	..	..	..	2
Erysipelas .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Syphilis .....	1	4	3	2	10	3	..	1	1	1	1	..	..	..	..	..	17
Rickets .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Meningitis (not Tuberculous) .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Convulsions .....	14	10	4	2	30	6	10	8	4	3	1	5	1	..	1	1	7
Gastritis .....	..	..	..	..	..	1	..	1	1	1	2	..	1	1	..	..	8
Laryngitis .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Bronchitis .....	..	..	2	4	6	9	5	6	5	1	6	4	2	6	3	2	55
Broncho-Pneumonia .....	..	..	2	..	2	2	4	4	4	6	6	8	2	3	7	4	52
Pneumonia .....	..	..	..	1	1	1	..	1	..	..	2	5	5	2	2	3	22
Croup—Spasmodic .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Suffocation, overlying .....	3	..	..	..	3	3	3	..	..	1	1	..	..	..	..	..	11
Other Causes .....	14	7	4	4	29	4	7	5	3	4	3	2	2	3	3	3	68
	202	65	59	41	367	96	88	86	73	64	72	70	47	46	49	49	1107

M. F.

Nett births during the Year { Legitimate 3858 3596  
Illegitimate 150 145

M. F.

Nett Deaths during the Year { Legitimate Infants 586 441  
Illegitimate Infants 46 34



TABLE VI.

City and County of Bristol.

## PHthisis : SANATORIUM AND HOSPITAL ACCOMMODATION.

1 Classes for which accommodation is provided.	2 By whom provided.	3 Where situated.	4 Total number of Beds.	5 How are patients selected ?	6 Are patients under the care of a resident Medical Officer ?	7 What charge, if any, is made for the use of Beds ?	8 Do the Sanitary Authority use— (1) their Isolation Hospital, or (2) their Small-pox Hospital, for cases of Phthisis ?	9 Do the Sanitary Authority reserve Beds in any Phthisis Sanatorium : If so, how many, and in what Sanatorium ?	10 Do the Sanitary Authority provide portable open-air Shelters or Tents ?
(A) Early Cases.	Bristol Corporation who have bought and maintain 21 Beds at Winsley Sanatorium.	Winsley Sanatorium, near Bath.	21	By Selection Sub-Committee of Health Committee of the Corporation.	Yes.	None for the Bristol Maintained Beds.	(1) and (2) : No. Isolation accommodation much too limited to allow of this.	See Columns 2, 3, 4.	No.
(B) Intermediate Cases.	Hospital provision.								
(C) Advanced Cases.	Guardians provide accommodation and contemplate providing more.	Southmead Stapleton	{ 30M } 14F { 41M } 12F	44 53					

Have the Council, or any Private Body, provided a Dispensary. If so, give particulars—

The Civic League have, through a Donation of £800, started the Bristol Dispensary for the Prevention of Consumption, at 4 Redcliffe Parade, West.  
Resident M. O. : Dr. C. J. Campbell Faill. Opened February 19th, 1912.



**PART II.****GENERAL.****WATER SUPPLY.****The Bristol Water Works Company.**

**SOURCES OF SUPPLY.**—(1) Springs in the triassic conglomerates and carboniferous limestone of the Mendip Hills, 16 miles from the City. (2) The Yeo Reservoir and Richford and Langford Springs, 12 miles from City. (3) Deep wells at Chelvey in the New Red Sandstone (triassic).

**STORE RESERVOIRS.**—At Barrow Gurney, where the water is filtered before delivery.

**WATER SERVICE.**—Constant.

**AVERAGE DAILY CONSUMPTION.**—23 gallons per head.

**The City Analyst furnishes the following Report.**

**Analysis of Water.**

Twenty-nine samples were examined—nine samples representing the City supply were reported upon, and this report appears.

Twenty other samples were received from the Medical Officer of Health. The following conclusions were found in reference to those samples :—

Sewage pollution was evident in eight cases. Surface drainage in two cases. The pollution was intermittent in three cases, past and undefined in two cases, one sample was polluted tidal water, one diluted sewage, and one a dirty sample of City water. In only two cases did the sample fall within the limit of sanitary purity.





# Analytical

Number of sample	3.	6.	9.
Date of collection	3rd February.	3rd March.	5th April.
Place of collection	Tap in Laboratory.	Tap in Laboratory.	Tap in Laboratory
Physical appearance	Clear, bright, neutral to litmus.	Clear, bright, neutral to litmus.	Clear, bright, neut. to litmus.
Remarks on solids	No smell on heating solids.	No smell on heating solids.	No smell on heati solids.
	Parts per 100,000.	Grains per gallon.	Parts per 100,000.
Free Ammonia ..	traces.		traces
Albuminoid Ammonia ..	.0048	.0033	.0094
Nitrogen in Nitrates ..	.144	.101	.112
Chlorine as Chlorides ..	1.14	.8	1.14
Total Hardness ..		15°	14.7°
Permanent Hardness ..		5.4°	4.8°
Temporary Hardness ..		9.6°	9.9°
Total Solids ..	28.5	19.95	26.75
Mineral Matter ..	22.5	15.75	21.75
Loss on ignition ..	6.0	4.2	5.0
Nitrites ..	nil		nil
Lead ..	nil		nil
Colonies per cc on Gelatine at 22° C. ..	15		30
Colonies per cc on Agar at 37° C. ..	5		3
MacConkey's Bile Salt broth (B. coli test)	Gas:—	—	—
25cc water used	Acidity:—	—	—

Chemical and Bacteriological) of City Water Supply.

10.	13a.	22.	24.	25.	28.						
May. Tap in Laboratory. Clear, bright, neutral to litmus. No smell on heating solids.	2nd June. Tap in Laboratory. Clear, bright, neutral to litmus. No smell on heating solids.	23rd August. Tap in Laboratory. Clear, bright, neutral to litmus. No smell on heating solids.	6th October. Tap in Laboratory. Clear, bright, neutral to litmus. No smell on heating solids.	30th October. Barrow Gurney. Clear, bright, neutral to litmus. No smell on heating solids.	14th December. Tap in Laboratory. Clear, bright, neutral to litmus. No smell on heating solids.						
Parts per 100,000.	Grains per gallon.	Parts per 100,000.	Grains per gallon.	Parts per 100,000.	Grains per gallon.						
nil.	nil.	nil.	nil.	traces.	nil.						
.0022 .128 1.21 14.2° 5.2° 9.0° 26.75 21.0 5.75	.0015 .089 .85 1.21 14.3° 5.7° 8.6° 18.71 14.7 4.02	.004 .112 .85 1.21 14.3° 5.7° 8.6° 24.75 20.25 4.5	.0028 .078 .85 1.21 14.3° 5.7° 8.6° 17.32 14.17 3.15	.0064 .032 1.57 1.57 14.4° 6.03° 8.37° 23.5 16.0 7.5	.0045 .022 1.1 1.1 13.17° 4.88° 8.29° 16.45 11.2 5.25	.0088 .064 1.57 1.57 27.0 19.25 7.75	.0061 .045 1.1 1.1 18.9 13.48 5.42	.005 .144 1.57 1.57 36.75 22.5 14.25	.0035 .101 1.1 1.1 25.72 15.75 9.97	.005 .24 1.64 1.64 33.0 23.5 9.5	.0035 .168 1.15 1.15 12.96° 5.09° 7.87° 23.1 16.45 6.65
nil	nil	nil	nil	nil	nil						
nil	nil	nil	nil	nil	nil						
8	10	18	43	18	20						
4	6	19	13	12	2						
—	—	—	—	—	—						
—	—	—	—	—	—						



### Sewerage, Drainage, Scavenging, etc.

All these matters are reported upon annually by the City Engineer to the Sanitary Committee, and the Report is published.

### Parks and Open Spaces.

The Parks and Open Spaces available for the recreation of the people comprise in all 800 acres, including Clifton and Durdham Downs, which have a combined area of 442 acres.

Of the 800 acres, 358 are laid out as parks, gardens, or playgrounds ; but the public has the right to wander over about 603 acres. Wicket pitches are allowed on Durdham Down and in five of the parks, where also Bowling Greens, Tennis Courts, and Quoit Grounds have been laid out. In two parks lakes are provided with boats. The net annual cost of the Parks and Open Spaces is about £7,600.

### Medical Inspection in Public Elementary Schools.

The number of children attending the Board Schools in September, 1897, before the extension of the City, was 18,077, and attending other schools was 21,868 ; or a total of 39,945. In 1898 the City was enlarged, a further enlargement took place in 1904, and by the 1st January, 1912, the total number of scholars on the registers of the schools controlled by the Education Committee was 60,295.

	No. of Schools	No. of Children on Registers.
Council Schools .. ..	43	39,408
Church of England Schools ..	42	18,062
Wesleyan Schools .. ..	1	650
Roman Catholic Schools .. ..	5	1,475
Schools for Mentally and Physically Defective .. ..	3	416
Industrial Schools .. ..	2	210
Deaf Institution .. ..	1	57
Semi-deaf Class .. ..	1	17
	—	—
	98	60,295

I am informed that there were 41 children under three years of age on the registers of the Public Elementary Schools in October, 1911. Since 1905 the Education Committee have excluded children under five years of age from certain schools.

In some of the poorer districts however, children under five are admitted.

The number of children under eight years of age on the registers of the Public Elementary Schools in October, 1911, was 23,758, and of that number, 4,446 were under five years of age.

Medical inspection of school children, for strictly limited purposes, has been provided by the Education Committee, under the Education (Administrative Provisions) Act, 1907, independently of the Health Committee.

The City has been divided into five districts, to each of which a part-time Medical Officer, in general practice, has been appointed, who devotes three school half-days, of two and a half hours each, per week to the work. In 1910 Dr. Green was appointed School Medical Officer.

The work was commenced on September 1st, 1908, the first month being utilised in a general survey to discover cases of under-feeding in some of the poorest districts, in view of the scheme for providing meals since adopted by the Committee.

Two whole-time Health Visitors or Nurses have been appointed, each taking one of the two school groups into which the Schools in the City have been divided ; these Nurses are chiefly engaged, under medical instructions, in attending to the dirty heads, discharging ears, and general conditions of cleanliness ; they also visit the homes and advise the parents.

The School Medical Officers now make a detailed examination of the hygienic condition of the schools.

The School Medical Officer issues a separate report.

### Co-relation of the School Medical Service with the Public Health Service.

In 1905, as there were then no School Medical Officers, and it was desirable that the Teachers should co-operate with the Health Department in dealing with communicable diseases in schools, the Education Committee adopted certain Regulations under which the Head Teacher has to forward a card to the Medical Officer of Health giving notice of any case of known or suspected sickness in the school. These regulations were especially designed to secure early information as to Measles, Whooping Cough, Chicken-pox, German Measles, or Mumps, which, as they are not notified by Medical Practitioners, may readily escape notice, though they form a considerable proportion of school illness.

Upon receipt of the cards from the Head Teachers, general inquiries are made at the affected houses by the District Inspectors, and precautionary notices left. The card is returned to the school with the provisional date for return marked upon it.

The Education Committee were advised to adopt these Regulations in 1905, not as a satisfactory solution of the question of dealing with communicable disease in schools, but as a temporary expedient until Medical Officers of schools were appointed.

Up to the present, Measles epidemics, which recur periodically, have not been satisfactorily controlled, as it has been found to be impracticable, without being in daily Medical touch with the schools, to detect the very earliest cases ; and if these are missed subsequent control is impossible. The best of Teachers are generally a few days too late in detecting the early Measles cases, and it is just these few days that matter. In the most recent Education Code, the power of voluntary school closure or exclusion of particular scholars is definitely given to the School Medical Officer, with whose duties in this respect

the Medical Officer of Health cannot interfere, except through the Health Committee; and the control of Measles must be initiated at the schools, and, if it is to be effectual, by the School Medical Officer.

In the case of Diphtheria or Scarlet Fever in schools, as with Measles, the duties of the Medical Officer of Health and of the School Medical Officer meet, but it is not quite clear, as yet, how they blend.

Before the appointment of School Medical Officers, it became necessary, upon the outbreak of Diphtheria in a school, to secure special Medical assistance, in order to make an individual examination of whole classes, or of whole schools; this assistance was provided by the Health Committee, as there were no School Medical Officers, but the work would seem to be essentially a work of school medical inspection.

At present the School Medical Inspecting Staff is not strong enough to undertake the heavy strain of such epidemic work; and the Health Department has no means of doing it except by the provision of special medical assistance; it cannot be effectually done first by one at the inception of an outbreak, and then, upon its wide extension, by the other, for such divided counsels would, perhaps, result in trouble. It would be well to clearly understand what is, in the opinion of the Central Education Authority, the proper adjustment of the duties of the Education and Health Authorities in regard to epidemic disease amongst scholars in school, and this does not appear to be made much clearer by the Memorandum on Closure of and Exclusion from School, published in 1909.

Meanwhile the Health Committee continue the action taken before the appointment of School Medical Officers.

The following table shows the number of cases of non-notifiable diseases forwarded to the Medical Officer of Health.

## 1911.

	1st Quarter ending 1st April	2nd Quarter ending 1st July	3rd Quarter ending 30th Sept.	4th Quarter ending 31st Dec.	Total
Measles .. ..	1,635	1,590	145	171	3,541
Chicken-pox ..	112	97	33	223	465
Whooping Cough	207	239	55	34	535
Mumps .. ..	733	205	30	61	1,029
Suspicious Throats & Rashes etc.	29	17	14	13	73
	2,716	2,148	277	502	5,643

The following Table shows the number of cases of Non-notifiable diseases reported to the Medical Officer of Health from the various schools :—

Schools.	Measles.	Whooping Cough.	Chicken Pox.	Mumps.	Rashes, Throats, etc.
Air Balloon Hill, (C.) .. .	19	2	13	90	2
Alexandra Park, (C.) .. .	4	—	—	—	—
Anglesea, (C.) .. .	1	—	—	2	—
Ashley Down, (C.) .. .	69	2	4	38	—
Ashton Gate, (C.) .. .	79	7	6	11	2
Avonmouth, (V.) .. .	2	—	—	—	—
Avon Vale, (C.) .. .	58	52	19	4	—
Baptist Mills, (C.) .. .	38	15	2	17	—
Barleyfields, (C.) .. .	26	4	—	1	—
Barnard Place, (V.) .. .	44	3	—	2	—
Barton Hill, (C.) .. .	120	1	4	13	—
Bedminster Bridge, (C.) .. .	39	23	3	2	1
Bedminster Down, (C.) .. .	31	1	—	2	1
Bedminster National, (V.) .. .	81	13	10	3	—
Berkeley Place, (V.), Jacobs Wells	37	—	3	35	—
Bishop Road, (C.) .. .	74	1	9	10	—
Castle, (C.) .. .	22	2	3	1	—
Chester Park, (C.) .. .	—	—	1	—	—
Christ Church, (V.) .. .	11	—	—	—	—
Clifton National, Clifton Wood ..	18	1	2	—	—
Day Industrial, Temple Backs ..	1	—	—	—	—
Dr. Bell's, (V.), Fishponds Road ..	1	—	—	1	—
Easton, (C.) .. .	34	—	11	24	—
Easton Road, (C.) .. .	48	9	9	8	—
Eastville Boys', (C.) .. .	30	—	4	14	4
Eastville Girls' and Infants'	103	6	10	1	1
Carried forward ..	990	142	113	279	11

Schools.	Measles.	Whooping Cough.	Chicken Pox.	Mumps.	Rashes, Throats, etc.
Brought forward ..	990	142	113	279	11
Emmanuel, (V.), Louisa Street ..	67	4	2	5	1
Fishponds College Praetising School (Girls) .. ..	—	—	—	2	—
Fishponds College Practising School (Infants) .. ..	4	1	1	26	—
Greenbank, (C.) .. ..	80	—	—	31	1
Hannah More, (V.) .. ..	89	2	19	3	—
Holy Cross, R.C., (V.) .. ..	12	—	8	—	—
Holy Trinity, (V.), Hotwells ..	41	—	—	—	—
Horfield, (V.) .. ..	23	—	2	1	—
Hotwells, (C.), Hope Chapel Hill ..	41	—	3	21	—
Hotwells National, (V.) .. ..	37	—	4	3	—
Kingsdown, (C.) .. ..	11	11	—	3	—
Knowle, (C.) .. ..	171	16	10	9	—
Luckwell, (C.) .. ..	122	6	3	4	20
Marlborough Hill, (V.) .. ..	5	—	1	—	—
Merrywood, (C.) .. ..	96	12	6	9	1
Mina Road, (C.) .. ..	71	7	12	24	—
Moorfields, (C.) .. ..	25	1	2	3	1
Newfoundland Road, (C.) ..	45	—	1	1	1
North Street Wesleyan, (V.) ..	62	6	10	4	1
Orchard Place, Stillhouse Lane ..	1	—	3	—	—
Park Place, R.C., (V) .. ..	—	1	—	3	—
Portland, (C.), Kingsdown ..	1	—	1	1	—
Parson Street, (C.) .. ..	6	—	11	—	1
Redcross Street, (C.) .. ..	15	1	—	3	1
Redcliff Endowed, Boys, (V.) ..	—	—	1	—	—
Redfield, (C.) .. ..	57	29	19	45	—
Carried forward ..	2,072	239	232	480	39

Schools.	Measles.	Whooping Cough.	Chicken Pox.	Mumps.	Rashes, Throats, etc.
Brought forward ..	2,072	239	232	480	39
Rose Green, (C.) .. ..	4	1	—	22	—
Russell Town, (C.) .. ..	51	5	2	6	—
St. Anne's, (C.) .. ..	31	11	35	17	4
St. Augustine's, (V.), Wells St.	41	2	2	3	—
St. Barnabas, (V.) .. ..	51	17	7	32	—
St. Gabriel's, (V.), Easton ..	56	—	7	7	5
St. George, (C.) .. ..	—	—	—	17	—
St. George National, (V.) ..	3	—	—	4	—
St. George's, (V.), Brandon Hill	45	1	—	43	—
St. James, (V.), St. James' Barton	27	2	8	5	—
St. John's, (V.), Durdham Down	8	6	—	—	—
St. Jude's, (V.) .. ..	35	1	1	9	1
St. Luke's, (V.), Barton Hill ..	43	—	5	—	—
St. Luke's, (V.), Weare Street ..	—	—	3	—	—
St. Luke's Institute, (V.) William Street ..	23	7	5	2	—
St. Mark's, (V.), Easton ..	22	—	—	2	—
St. Mary Redeliffe, Girls' and Infants' (V.) ..	14	10	12	1	—
St. Mary-on-Quay, R.C., (V.) ..	13	10	1	9	1
St. Matthias, (V.), Broad Weir	48	4	1	7	—
St. Michael's, (V.), Old Park ..	2	1	1	3	—
St. Nicholas, R.C., (V.) .. ..	4	2	3	9	—
St. Nicholas & St. Leonard's, (V.)	14	1	—	1	—
St. Paul's, (V.), Dean Lane ..	12	6	3	3	—
St. Paul's, (V.), Portland Sq. ..	11	11	—	5	—
St. Philip's, (C.), Freestone Road	56	14	8	10	1
St. Philip's Church, (V.) ..	51	3	15	3	5
Carried forward ..	2,737	354	351	700	56

Schools.	Measles.	Whooping Cough.	Chicken Pox.	Mumps.	Rashes, Throats, etc.
Brought forward ..	2,737	354	351	700	56
St. Saviour's, (V.), Woolcott Park	2	1	—	—	—
St. Silas, (V.), St. Philip's Marsh	51	15	9	106	1
St. Simon's, (V.), Baptist Mills	55	4	—	4	—
Sefton Park, (C) ..	17	22	3	44	5
Shirehampton, (V.) ..	6	15	—	3	—
South Street, (C) ..	87	4	6	2	2
Stapleton, (V.) ..	10	—	—	6	—
Stoke Bishop, (V.) ..	1	—	—	—	—
Summerhill, (C) ..	69	23	28	117	6
Sussex Street, (C) ..	90	1	2	—	—
Temple Colston, (V.), Temple ..	56	8	1	9	1
Two Mile Hill, (C) ..	7	12	3	3	1
Victoria Park, (C), St. John's Lane	104	11	17	10	—
Wells Road, (C) ..	116	1	9	7	—
Westbury-on-Trym, (V.) ..	16	18	10	2	—
Westbury Park, (C) ..	4	3	—	—	1
Whitehall, (C) ..	47	2	1	8	—
Wick Road, (C) ..	13	7	2	1	—
Windmill Hill, (C) ..	53	34	23	7	—
TOTALS ..	3541	535	465	1029	73

NOTE.—Sixty four cases of Ringworm were also reported from various Schools.

#### GRAND TOTALS.

Measles ..	..	..	3541
Whooping Cough ..	..	..	535
Chicken Pox ..	..	..	465
Mumps ..	..	..	1029
Rashes, Throats, etc. ..	..	..	73
Ringworm ..	..	..	64
			5,707

No returns of any of these diseases have been received from the following schools during the year 1911 :—

Fairfield (C.)

St. Bonaventure, R. C. (V.), Egerton Road.

St. Matthew's (C.) Kingsdown.

### Housing of the Working Classes.

The following Table shows the action taken over a period of 20 years :—

Date.	No. of Houses dealt with.	No. of Houses closed.	No. of Houses made habitable.
1890	35	30	5
1891	72	27	45
1892	26	18	8
1893	2	0	2
1894	34	18	16
1895	31	18	13
1896	28	10	18
1897	4	3	1
1898	9	7	2
1899	33	31	2
1900	21	6	15
1901	6	1	5
1902	64	61	3
1903	67	58	9
1904	34	16	18
1905	28	11	17
1906	9	9	0
1907	18	15	3
1908	30	12	18
1909	17	9	8
Total ..	568	360	208

*Housing, Town Planning, &c., Act.*

The action taken under the provisions of this Act during 1911, is set forth here :—

Total number inspected, 1,351 and 2 rooms.	Found defective	72 and 2 rooms Closed under order. 38 Closed voluntarily.* 794 Made habitable. (118 in hand). No action necessary, 332.
---	--------------------	--

Of the 110 and 2 rooms closed, 33 houses were subsequently voluntarily demolished.

**Municipal Lodging House.**

This Lodging House was opened on April 20th, 1905, with 60 beds, and continued with this number until the 17th September, 1905, the average number of lodgers per night during that period was 42. On the 17th September, 1905, the number of beds was increased to 120 and the average nightly occupations from that date to 25th March, 1906, was 74.

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\*Including 3 houses inspected in 1910.

**City and County of Bristol.**

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**MUNICIPAL LODGING HOUSE.**

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**City Accountant's Report and Financial Statement.**

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**TO THE CHAIRMAN AND MEMBERS OF THE HEALTH COMMITTEE.**

In submitting to you the Financial Statement of the Municipal Lodging House, for the year ended 25th March, 1912, I beg to report as follows, viz :—

The total number of nightly occupations from 26th March, 1911, to 25th March, 1912, was 34,398, or an average of 94 lodgers per night during the year, the total number of beds available being 120.

For the year ended 25th March, 1911, the total number of nightly occupations was 31,064, or an average of 85 lodgers per night during the year. This is an increase of 3,334 nightly occupations, or an increase on the average of 9 lodgers per night.

The result of the increase in the number of lodgers has been a corresponding increase in the receipts over the previous year of £78 7s. 1d.

There has been an increase in the expenditure as compared with the previous year, of £158. Included in this sum is Painting, etc., £76 13s. 3d., and Linen, £51 16s. 10d. making a total of £128 10s. 1d. which might be regarded as extraordinary expenditure ; the balance of £29 9s. 11d., is spread over the various items of maintenance, and is caused through the increase in the nightly occupations.

The net deficit on the working expenses for the year ended 25th March, 1912, was £27 10s. 9d., as compared with a surplus of £51 10s. 10d., in the previous year.

The total amount chargeable on the Rates, for the year 1911-1912 in respect of Interest on and Repayment of Loans, and also taking into account the deficit of £27 10s. 9d. on the working expenses, was £577 14s. 7d., as compared with £500 18s. 7d. for the year ended 25th March, 1911.

For the information of the Committee, I append herewith the average amount received per night per occupation and the average cost, viz :—

Year 1910-11.		Year 1911-12.
d.		d.
	Average amount received per nightly occupation.	
5·37		5·42
	Average cost per nightly occupation (maintenance only)	
5·01		5·62
	Do. (maintenance and interest on loans).	
7·77		8·09
	Do. (maintenance, interest on loan and contribution to Sinking Fund).	
9·28		9·46

I am, Gentlemen,

Your obedient Servant,

(signed) J. CROMPTON,

City Accountant.

## MUNICIPAL LODGING HOUSE.

## EXPENDITURE.

Year 1910-11.				Year 1911-12.		
£	s.	d.	£	s.	d.	
379	2	3	Wages .. . . . .	383	12	6
66	19	8	Rates, Taxes and Insurance .. . .	66	5	1
24	19	11	Electric Light .. . . .	25	7	3
3	8	8	Gas .. . . .	2	11	3
36	18	3	Water .. . . .	53	14	0
32	0	1	Fuel .. . . .	42	12	1
59	19	2	Washing and Cleaning Materials ..	67	17	5
9	17	0	Cleaning Windows and Chimneys ..	10	0	4
3	19	10	Printing, Stationery and Advertising ..	5	11	9
—	—	—	Painting and General Repairs ..	76	13	3
11	9	0	Fittings, Lamps, Repairs, etc. ..	15	6	11
10	9	10	Erecting Lamp and Signboard ..	—	—	—
—	—	—	Linen .. . . .	51	16	10
			Contribution to Workmen's Compensation Fund .. . . .	1	5	10
1	8	8	Crockery .. . . .	—	—	—
6	12	2	Sundries .. . . .	3	6	2
648	12	0		806	0	8
<b>LESS INCOME</b>						
692	16	3	Cubicles .. .	773	17	3
1	2	5	Baths .. .	1	2	9
11	2	2	Parcels .. .	1	2	5
8	0	0	Fines .. .	17	6	
694	17	10		776	19	11
700	2	10	Rent .. .	1	10	0
—	—	—	Deficiency on Ordinary Working	778	9	11
51	10	10	Surplus do. do.	—	—	—
356	8	11	Interest on Loans	354	3	4
			Contribution to Sinking Fund for Redemption of Debt ..	196	0	6
552	9	5		550	3	10
500	18	7	Total amount charged to General District Rate	577	14	7

CITY ACCOUNTANT'S OFFICE,

51, PRINCE STREET,

4th May, 1912.

**Mortuaries.**

Quakers' Friars, off Merchant Street, *post mortem* Examination Room and Coroner's Court adjoining.

In addition to the above, there are Mortuaries for Police purposes at Bedminster and Redland Police Stations.

A new Mortuary has been constructed at Avonmouth.

**THE MIDWIVES' ACT, 1902.**

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**The Notification of Births Act, 1907.**

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The Midwives' Act was transferred by resolution of the Bristol City Council on 3rd October, 1911, from the Watch Committee to the Health Committee, who, on 18th April, 1912, appointed two Health Visitors to carry out the provisions of these Acts under the supervision of these Acts under the supervision of an Assistant Medical Officer. Arrangements are in progress to this end.

**AMBULANCE RECORD.—1911.****INFECTIOUS CASES REMOVED.**

Month.	Cases Removed (Total).	Cases Removed (Average Daily).	Journeys.	Mileage (Total).	Mileage (Average Daily).
January	96	3·0	56	894	28·8
February	71	2·5	51	760	27·1
March ..	91	2·9	60	860	27·7
April ..	91	3·0	56	787	26·2
May ..	99	3·1	67	923	29·7
June ..	60	2·0	52	726	24·2
July ..	70	2·2	53	828	26·7
August ..	85	2·7	53	780	25·1
September	114	3·8	76	1145	38·1
October ..	107	3·4	68	1135	36·6
November	134	4·4	82	1366	45·5
December	58	1·8	45	711	22·9
(Totals)	1076	2·94 (Average Daily).	719	10,915	29·90 (Average Daily).

## **DISINFECTION STATION AND AMBULANCE SERVICE.**

The Disinfection Station is on the site formerly occupied by the City Small-pox Hospitals in St. Philip's Marsh, and the buildings now comprise :—

- (1) Disinfcting Block containing two Steam Disinfecting Machines, Receiving Room, Clearing Room, and a Boiler House.

These rooms have been erected for some years, and are sufficient for the purpose, except that the Boiler House would be more convenient if a little larger. No laundry is attached, as this was deleted from the original plans.

- (2) The new stable buildings, completed in 1906, comprise stalls for eight horses and two loose boxes. The stabling is of modern construction, fairly lighted and well ventilated, and has enough accommodation to meet the requirements of the Ambulance and Disinfecting Services. Near to the stable is a small forage room, and a harness room which is also used as a mess room and offices.

The stable was so designed that conversion to a motor house would be simple and inexpensive.

The old sheds have been enlarged and adapted to serve as coach house and cart shed.

It is contemplated to remove the Ambulance Service from Clift House Stables, where there is cottage accommodation for both the ambulance driver and the stableman.

In October, 1909, a Motor Van commenced running for the collection of infected articles. This Motor Van displaced the services of two drivers, and also dispensed with the work of two horses. It is worked in conjunction with a horse delivery cart for the return of articles after disinfection. Only one horse is now attached to the Disinfecting Service. The caretaker of the Disinfcting Station is driver of the motor van.

The following accommodation is provided for the Ambulance Nurse and the Caretaker :—

CARETAKER.—(Ground Floor)—Sitting room and office, kitchen, scullery, offices, &c.

(First Floor)—One bedroom and use of bathroom, &c.

AMBULANCE NURSE.—(First Floor)—One sitting-room, one bedroom, and use of bathroom, &c.

ISOLATION ROOMS, under the Infectious Disease (Prevention) Act—Four rooms, viz. :—

(Ground Floor)—Kitchen, sitting-room, scullery, bath room, offices.

(First Floor)—Two bedrooms.

This accommodation is provided in one building ; the Isolation Rooms being self-contained and under the supervision of the Caretaker.

The accommodation was completed in 1909, and has been in occupation since October of that year.

## VACCINATION.

The 1910 returns are the last complete ones available. I am indebted to the Clerk of the Bristol Union for the following information :—

	BRISTOL UNION.
<i>Vaccination.</i>	
Number successfully vaccinated up to 31st January, 1912.....	3,585
Insusceptible.....	15
Died unvaccinated .....	656
Postponed by Medical Certificate	121
Certificates of Conscientious Objection .....	1,711
Removed to Districts, the Vaccination Officer of which has been duly apprised .....	220
Cases left and not traceable.....	968
In abeyance .. ....	1,007
Births registered in 1910 .....	8,283
*Percentage of successful vaccination to births .....	43·28

\* A special return of Certificates of successful primary vaccinations at all ages received in each of the calendar years since 1900, was furnished at the request of the Local Government Board, and showed as follows:—Certificates received in 1900, 5,917; in 1901, 5,776; in 1902, 6,898; in 1903, 6,972; in 1904, 7,413; in 1905, 7,253; in 1906, 6,870; in 1907, 6,464; in 1908, 5,092; in 1909, 5,377; in 1910, 4,367; and in 1911, 3,443.





\*Bristol Union.—Summary of persons relieved on the foll  
being the date of the formation of the Union.

	1st April. 1898.	1st April, 1899.	1st April, 1900.	1st April, 1901.	1st April, 1902.	1st April, 1903.	1st April 1904.
In Workhouses and Children's Homes	2,357	2,281	2,305	2,408	2,355	2,388	2,513
In Institutions, &c.	114	116	127	127	148	155	149
In Lunatic Asylums	826	824	810	830	847	856	859
Out-door poor ...	7,796	6,409	5,847	5,837	5,845	5,829	6,030
	—	—	—	—	—	—	—
	11,093	9,630	9,089	9,202	9,195	9,228	9,551
Weekly cost of Out-relief ... ...	£724 6 1	£683 14 11 $\frac{3}{4}$	£644 14 7	£662 18 4 $\frac{3}{4}$	£697 16 9 $\frac{1}{2}$	£710 0 10 $\frac{1}{2}$	£746 4

\* The Union was much increased in area.

† The reduction is due to the large number of cases.

dates: the first named date (1st April, 1898)  
the City and County of Bristol.

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April, 1905.	1st April, 1906.	1st April, 1907.	1st April, 1908.	1st April, 1909.	1st April, 1910.	1st April, 1911.	1st April, 1912.
578	2,528	2,653	2,745	2,855	2,944	2,874	2,927
159	146	148	135	125	123	139	131
869	875	881	863	831	859	883	867
425	6,116	5,921	5,696	5,585	5,764	4,280	4,472
031	9,665	9,603	9,439	9,396	9,690	8,176	8,397
19 8	£792 12 2½	£765 14 1½	£756 8 3	£765 13 4	£785 6 5	£504 0 10	£589 9 8

and population in October, 1904.

transferred to the Old Age Pension List.



**Medical Officer of Health's Department.**

—:o:—

**CLERICAL RETURNS.**

Number of letters and documents received at and despatched from the Office.

	1904		1905		1906		1907		1908		1909		1910.		1911	
	In.	Estimated for Special Report.	In.	Out.	In.	Out.										
M.O.H. . .	4,481	5,490	10,603	15,104	9,124	8,727	9,417	8,475	9,000	8,144	10,420	12,742	12,755	15,656	19,060	27,874
Infectious Disease	20,037	36,695	14,280	19,859	12,488	17,990	14,519	20,874	11,496	16,177	10,704	13,977	11,473	15,354	9,564	13,130
Hospitals	2,816	3,465	3,925	2,810	3,214	3,055	4,746	3,833	3,290	3,111	4,604	4,850	4,491	8,311	4,097	8,088
Inspectors	3,485	2,656	6,250	5,959	5,802	4,505	5,943	4,201	4,124	3,744	5,689	5,357	12,555	15,444	14,245	17,701
Port . . .	633	1,058	962	1,003	1,056	957	1,768	1,905	1,337	1,670	3,237	3,636	2,666	3,022	3,420	4,627
TOTAL . . .	31,452	49,274	35,120	44,735	31,684	35,234	36,393	39,338	29,247	32,846	34,654	40,562	43,940	57,787	50,386	71,420
	80,726	79,855									75,731	62,093	75,216	101,727	121,806	

1911—1912.

## Baths and Wash-houses.

The following figures are returned for the year's work :—

Year ended 25th March, 1912.	No. of Bathers Swimming Baths	Private Baths.	Women Washing Clothes.
" Victoria," Clifton (Baths only)	22,153	2,656	...
" Royal," Kingsdown (Baths only)	47,240	...	...
Broad Weir	36,218	27,929	15,655
Mayor's Paddock, New Cut	37,633	27,628	16,760
Jacob's Wells (Baths only)	50,859	20,751	...
Remmison's (Swimming Bath only)	18,741	...	...
Barton Hill	73,456	30,994	...
Eastville Park (Swimming Bath only)	27,091	...	...
Victoria Park (Swimming Bath only)	19,504	...	...
Greville Park (Swimming Bath only)	17,671	...	...
Total ...	350,566	109,958	32,415
1910-11	263,571	105,397	28,706
1911-12	350,566	109,958	32,415
	+ 86,995	+ 4,561	+ 3,709

(Up to March 25th, 1912).

*Particulars supplied by Mr. J. KANE*

Mr. Edward Russell, B.Sc., F.I.C., City Analyst, has kindly supplied the following returns for 1911.

### “ FOOD AND DRUGS ACTS.”

During the year 1,305 samples were submitted for analysis; all the samples were received from the Inspector.

The following Tables show the nature and number respectively of the samples submitted, with the number reported genuine and the number adulterated:—

Number of samples examined .. ..	1,305
,,     ,,     genuine .. ..	1,173
,,     ,,     adulterated .. ..	132

Article.	Number Examined	Number Genuine	Number Adulterated.	Per cent. Adulterated.
Milk .....	635	529	106	16·69
Milk (skim) .....	15	14	1	6·66
Butter .....	310	295	15	4·84
Margarine .....	24	24	0	0
Cheese .....	21	21	0	0
Cream .....	1	1	0	0
Lard .....	17	17	0	0
Lard Substitutes....	3	3	0	0
Spirits .....	61	54	7	11·47
Sugar and Sweets ..	24	24	0	0
Wheaten and other Flours.....	35	35	0	0
Vinegar .....	3	3	0	0
Coffee .....	19	19	0	0
Coffee and Chicory	4	4	0	0
Cocoa and Cocoa Essence .....	4	4	0	0
Pepper .....	14	14	0	0
Mustard .....	12	12	0	0
Ginger Bread.....	2	2	0	0
Tea .....	13	13	0	0
Mineral Waters .....	7	7	0	0
Ice Cream .....	2	2	0	0
Gravy Salt .....	2	2	0	0
Egg Powder.....	3	3	0	0
Lemonade Crystals..	7	7	0	0
Baking Powder .....	8	8	0	0
Rice .....	4	4	0	0
Drugs .....	41	38	3	7·32
Bread .....	4	4	0	0
Jellies (Gelatine) ...	6	6	0	0
Ground Ginger .....	1	1	0	0
Health Salt .....	1	1	0	0
Mixed Spice .....	1	1	0	0
Curry Powder .....	1	1	0	0
1305		1173	132	10·11

The working of these Acts in the City of Bristol is entrusted to an Inspector acting under the Watch Committee and is not administered by the Health Committee.

## THE WEATHER OF 1911.

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### Local Observations.

#### The Remarkable Summer.

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Mean pressure at 9 a.m. (corrected)	..	30.015 inches.
Greatest pressure at 9 a.m. ..	..	30.80 in. on Jan. 18.
Least pressure at 9 a.m. ..	..	24.815 in. on Nov. 18.
Total rainfall at Frampton Cotterell	..	24.65 inches.
Number of rainy days ..	..	152.
Heaviest rainfall in 24 hours ..	..	0.84. in on June 22.
Total rainfall at Clifton ..	..	31.54 inches.
Number of rainy days at Clifton ..	..	181.
Heaviest rainfall in 24 hours ..	..	1.22 in. on June 22.
Mean temperature at Clifton (max. and min.)	..	51.3 degrees.
Maximum temperature in shade ..	..	91 degrees on July 29.
Minimum temperature in shade ..	..	23 degrees on Feb. 2.
Extreme range ..	..	68 degrees.
Hours of bright sunshine (estimated)	..	1,858.
Days of bright sunshine ..	..	125.
Days entirely overcast ..	..	47.
Number of frosty nights ..	..	45.

In almost every direction the past year has been one of extraordinary character and interest—one, indeed, which cannot fail to provide much subject matter for future historians. And it may be said with truth that in no direction has this been more the case than in that of its prevailing weather. Taken altogether the four opening months were very seasonable, and gave no indication of the unusual conditions which were to follow. Their chief matters of interest were the lengthy period of fair dry weather during January and the early part of February, and the unprecedented cold during the first week in April. With a day of brilliant sunshine on the 4th of May, however, commenced the longest and most brilliant summer within living memory, practically lasting right onward, with only one break of any importance, until the second week of September.

Throughout this long period in this locality, if we except the latter half of June, only about  $2\frac{1}{2}$  inches of rain fell, whilst days of brilliant sunshine and heat were of as common occurrence as they had been rare in the preceding summer. Unfortunately the unsettled weather already referred to coincided with the Coronation festivities, and locally there was cause for a very special grievance in this

respect. Coronation Day, in fact, brought to Bristol by far the heaviest rainfall of the summer and, indeed, as it proved, of the year. Further, very curiously, the down-pour practically began at the time the festivities were timed to commence, and concluded at their close. Although the fact could not be expected to be of much comfort, except to the most unselfish of Bristolians, this very heavy rainfall was of a very local character, most other districts reporting fair conditions for their celebrations. With regard to the autumn, the early portion was, upon the whole, very fine and dry, and fairly seasonable, but towards the close of the year a series of heavy and continuous rains set in which lasted until the concluding week, and were accompanied by unduly mild and warm weather.

In regard to its rainfall the year proved a great contrast to its predecessor, having no less than 13 fewer inches of rain. At the same time considering the general character of the year the deficiency was not nearly so great as at one time seemed probable; the heavy rains of the concluding months bringing the year's total up to within easy distance of the average. The monthly details will be seen from the following table:—

1911.	FRAMPTON COTTERELL.				CLIFTON.				
	Heaviest in 24 hours.				Heaviest in 24 hours.				
	Total fall.	Annt.	Date.	Rainy days.	Total fall.	Dpture from average	Annt.	Date.	Rainy days.
Jan.	Ins. 0·78	Ins. 0·29	11	10	Ins. 1·23	+1·78 0·40	11	11	
Feb.	1·86	0·53	12	14	2·74	+0·22 0·58	18	17	
March	2·48	0·69	12	16	2·78	+0·37 0·70	12	18	
April	1·12	0·42	28	13	2·03	-0·25 0·49	28	19	
May	0·88	0·35	3	6	1·21	-1·04 0·43	3	7	
June	2·58	0·84	22	11	3·09	+0·67 1·22	22	16	
July	0·02	0·02	26	1	0·09	-2·83 0·07	26	3	
Aug.	1·35	0·28	27	11	1·80	-1·99 0·48	28	13	
Sept.	1·42	0·57	13	9	1·61	-1·35 0·64	13	12	
Oct.	2·51	0·47	24	15	2·89	-1·03 0·44	24	16	
Nov.	3·94	0·72	11	19	4·73	+1·40 0·97	11	22	
Dec.	5·71	0·70	14	27	7·34	+4·04 0·86	14	27	
Totals, &c.	24·65	0·84	June. 22	152	31·54	-3·57 1·22	June. 22	18·1	

The totals for the year and their departures from the average, at those stations for which the rainfalls have appeared monthly, are as follow :—Stornoway, 48·43 inches—0·17 inch; Leith, 19·90 inches—3·90 inches; Spurn Head, 18·93 inches—0·67 ineh; Liverpool, 25·26 inches—3·54 inches; Valencia, 55·76 inches—0·74 inch; Scilly, 34·44 inches—0·84 inch; Jersey, 31·69 inches—2·51 inches; Bath, 25·67 inches—4·33 inches; Nottingham, 19·35 inches—5·45 inches; and London, 23·06 inches—0·94 inehes.

The mean temperature of the year, as might be expected, was much above the average. The full details for each month in this locality will be seen from the succeeding figures :—

1911.	Mean	Dif'rnce from average	Max.	Extremes.		Date.	Ex-treme range	No. of frosty nights.
				Date.	Min.			
Jan.	deg. 38·9	deg. —0·9	deg. 52	28	27	16 & 31	25	16
Feb.	40·9	+1·1	52	18	23	2	29	7
March	41·7	—0·9	57	31	29	17	28	7
April	46·3	—1·4	63	14 & 22	26	6	37	5
May	57·1	+3·6	78	29	40	3 & 20	38	0
June	60·1	+0·6	79	1	43	27	36	0
July	66·7	+4·6	91	29	48	2	43	0
Aug.	65·7	+5·9	90	13	47	31	43	0
Sept.	59·4	+2·7	90	8	38	22	52	1
Oct.	51·1	+1·8	66	19	31	29	35	1
Nov.	43·3	—0·3	56	1 & 4	30	26 & 28	26	6
Dec.	44·3	+4·9	51	16, &c.	31	6	20	2
Means, &c.	51·3	+1·8	91	July 29	23	Feb. 2	68	45

Except for those relating to the number of frosty nights, I am indebted for these figures as well as those giving the rainfall at Clifton, to the courtesy of Mr. R. F. Sturge, F.R. Met. Soc. The most striking feature of these figures is, of course, the remarkable warmth of the year (if we except November) from May to its close. The contrast of the year with its predecessor in this respect was very marked, the maximum temperature of the preceding summer being 79 degrees on June 20th, while the mean of

July was only 59·8 degrees. A common feature to each year, however, was the warmth of October, this making the seventh year in succession that such has been the case.

At Frampton Cotterell the mean for the year was 50·6 degrees, showing an excess of just over one degree on an eighteen years' average. The extremes of temperature were 92·7 degrees on August 13th, and 17·9 degrees on February 2nd—a range of 74·8 degrees. The warmest day of the year proved to be August 13th, with a mean temperature of 78·9 degrees; and the coldest February 2nd, mean 27·2 degrees. Over our islands the maximum recorded was 100 degrees at Greenwich on August 9th, and the minimum 10 degrees at Garforth on February 2nd, showing an extreme range of 90 degrees. Mean atmospheric pressure for the twelve months showed a substantial excess over the average of the past twelve years. The following table gives the details for each month :—

1911.	Mean at 9 a.m.		Extremes.				Range. Inches.	
	Inches.	Dif'rence from Average	Maximum.		Minimum.			
			Inches.	Date.	Inches.	Date.		
Jan.	30·353	+0·288	30·800	18	29·741	6	1·059	
Feb.	30·209	+0·283	30·792	2	29·469	23	1·323	
March	29·941	+0·014	30·424	3	29·565	13	0·859	
April	30·047	+0·121	30·438	13	29·379	29	1·059	
May	30·003	+0·013	30·368	6	29·617	14	0·751	
June	30·045	+0·041	30·479	7	29·529	18	0·950	
July	30·173	+0·157	30·568	11	29·700	1	0·868	
Aug.	30·095	+0·024	30·250	31	29·554	21	0·696	
Sept.	30·081	+0·018	30·398	18	29·472	21	0·926	
Oct.	29·914	-0·021	30·552	10	28·927	22	1·625	
Nov.	29·726	-0·239	30·305	29	28·845	18	1·460	
Dec.	29·680	-0·194	30·360	31	29·083	21	1·277	
Means, &c.	30·015	+0·042	30·800	Jan. 18	28·845	Nov. 18	1·955	

These results show pressure to have been above that of any other year since 1898, with the exception of 1908, when the mean was 30·030 inches. Over our islands the greatest pressure reported at 7 a.m. was 30·86 inches at Castlebay on February 1st, and the least 28·29 inches at Sumburgh Head, on February 23rd, an extreme of 2·57 inches.

Thunderstorms were not of very great frequency during the year. They were commonest during May, the first few days and the latter half of June, and during the last week of July. Many of the storms which did occur, however, were very severe, and in some instances presented very unusual characteristics. For example, numerous storms during the first few days of June and the last week of July were quite rainless, or nearly so, a terrific storm at Fortrose on June 1st only producing 0·1 inch of rain, although on the same date another storm in Devon and Cornwall brought very heavy rain and hail. No doubt the most extraordinary storm of the year, however, was that of July 29th, accompanied, as it was, by a severe dust storm and terrific wind. This passed across the southern district of England from west to east at the rate of 49 miles per hour. This storm brought very little rain to England, but over the south of Ireland the rainfall was abnormally heavy. Locally, very curiously, the severest storm of the year prevailed throughout the evening and early night of March 22nd.

The year was singularly free from snow storms, practically none of importance occurring. Some fell on the 2nd and 12th of January in various districts, and showers were fairly frequent during February. There were many falls also during the first week of April, when locally, practically the only snow of the year was experienced, apart from a fall to the north of the city on November 27th. Displays of Aurora Borealis were observed on many dates in Scotland during January and March—at Stornoway on April 8th and August 23rd, at Aberdeen on November 13th, at Liverpool and over Scotland on December 11th, and at Aberdeen on December 26th.

Gales were very frequent during the winter, early spring, and late autumn months. December especially being one of the most stormy months for many years past.

H. H. HARDING, F.R. Met. Soc.

METEOROLOGICAL OBSERVATIONS AT BRISTOL.  
1911.

JANUARY.—A remarkably fair and pleasant winter month, anti-cyclonic conditions predominating from commencement to close. At first the weather was certainly somewhat changeable, the spells of high pressure being broken by the passage of a “secondary” disturbance on the 6th, and a complete cyclonic system on the 11th and 12th; these causing rough winds and decided rainfalls. After the 13th, however, no disturbance whatever reached our shores, the barometer maintaining a remarkably high level to the close of the month.

The mean temperature (max. and min.) was 38 degrees, a value slightly below the average. The maximum reading was 52 degrees on the 28th, and the minimum 27 degrees on the 16th and 31st—a range of 25 degrees. The warmest day was the 27th, with a mean temperature of 46 degrees; and the coldest the 31st, mean 29 degrees. At Frampton Cotterell sixteen frosty nights were recorded.

The total rainfall at Clifton was 1.23 inches, and at Frampton Cotterell 0.78 inch, falling upon 11 and 10 days respectively. These amounts show a deficiency for the month of  $1\frac{3}{4}$  inches.

Mean atmospheric pressure at 9 a.m. was 30.353 inches, a value exceeding that of any other month within the past twelve years, excepting January, 1907, when the mean was 30.364 inches. The greatest pressure recorded was 30.800 inches on the 18th, and the least 29.741 inches upon the 6th. Throughout the month there were at 9 a.m. only three readings below 30 inches—a very remarkable record for a winter month.

FEBRUARY.—This month’s weather was divided into two sharply contrasting and almost equal periods; anti-cyclonic conditions dominating the first portion, whilst a series of cyclonic storms brought almost daily rainfalls

and much rough weather during the concluding half. Very severe frosts marked the first three days, but the fourth brought a decided thaw. The weather, however, continued cold with occasional night frosts until the 13th, after which high temperatures prevailed to the close.

Mean temperature was 40·9 degrees ; about one degree above the average, but one below that of the month in 1910. The maximum was 52 degrees on the 16th and 18th, and the minimum 23 degrees on the 2nd—a range of 29 degrees. The warmest day was the 17th, with a mean temperature of 48·5 degrees, and the coldest the 2nd, mean 30 degrees. Seven frosty nights were experienced.

The rainfall at Clifton was 2·74 inches, and at Frampton Cotterell 1·86 inches ; falling upon 17 and 14 days respectively. The value for Clifton shows an excess of slightly under a quarter of an inch, against one of  $2\frac{1}{2}$  inches in 1910.

Mean atmospheric pressure was 30·209 inches ; these figures being much above the normal, and over half an inch above that of the month in 1910. The maximum reading was 30·792 inches on the 2nd, and the minimum 29·469 inches on the 23rd.

MARCH.—A changeable and unsettled month, two periods of four days apiece being the longest times without measurable rainfall. The 22nd brought the most remarkable weather of the month, a close and warm afternoon being followed by a thunderstorm of great severity and of a decidedly summer type throughout the evening. Some very cold weather succeeded, with more snow on the 25th, than had fallen upon any previous occasion throughout the previous winter. After a few cold days, however, the temperature rose decidedly, and the month concluded with a warm and spring-like day.

The mean temperature was 41·7 degrees, nearly a degree below the average, and two below that of the month in 1910. The maximum was 57 degrees on the 31st, and

the minimum 29 degrees on the 17th—a range of 28 degrees. The warmest day was the 31st, with a mean temperature of 49·5 degrees; and the coldest the 16th, mean 37 degrees. Seven frosty nights were recorded.

The rainfall varied from 2·78 inches on 18 days at Clifton, to 2·48 inches on 16 days at Frampton Cotterell. These values show an excess of a little over a quarter of an inch.

Mean atmospheric pressure at 9 a.m. was 29·941 inches, these figures being slightly above the average of the past twelve years. The maximum reading was 30·424 inches on the 3rd, and the minimum 29·565 inches on the 13th.

**APRIL.**—The first two days gave average April weather, but then followed a period of bitter cold. The 5th and 6th, indeed, brought weather such as was quite without precedent for the time of year, frost setting in early in the afternoon of the earlier date and continuing well into the next day, accompanied by a bitter north-easterly wind and squalls of snow. Such weather, fortunately could not last long so late in the season, and the month made amends by providing ideal conditions for Easter. On the 18th, however, the weather broke up, typical April weather following, and continuing to the close of the month.

The mean temperature was 46·3 degrees, one and a half below the average. The maximum was 63 degrees on the 14th and 22nd, and the minimum 26 degrees on the 4th—a range of 37 degrees. The warmest day was the 22nd, with a mean temperature of 56 degrees; and the coldest the 5th, mean 33 degrees. Mr. R. F. Sturge, F.R. Met. Soc., states that the reading of 26 degrees is the lowest recorded for April at Clifton. At Frampton Cotterell five frosty nights were observed.

The total rainfall at Clifton was 2·03 inches, and at Frampton Cotterell 1·12 inches; falling upon 19 and 13 days respectively. The average for the month at Clifton is 2·29 inches.

Mean atmospheric pressure at 9 a.m. was 30·047 inches, a value decidedly above the normal. The greatest pressure recorded was 30·438 inches on the 13th, and the least 29·400 inches on the 19th.

MAY.—The first three days were wet, cold, and rough, but from then onwards the month provided weather of the most brilliant description. Apart from the 7th, which was fair but cloudy, every day brought a greater or less amount of sunshine, the last week being especially warm and sunny. Throughout this period the rainfall was restricted to a few slight showers, so that a good down-pour was badly needed at the close.

The mean temperature was 57·1 degrees, three and a half above the average, the month being the warmest for 39 years, excepting May 1893 when the mean at Clifton was 57·6 degrees. The maximum was 78 degrees on the 29th, and the minimum 40 degrees on the 4th and 19th—a range of 38 degrees. The warmest day was the 30th, with a mean temperature of 66 degrees ; and the coldest the 2nd, mean 46 degrees.

The rainfall at Clifton was 1·21 inches, and at Frampton Cotterell 0·88 inch ; falling upon 7 and 6 days respectively. These values show a deficiency in this locality of about an inch.

Mean atmospheric pressure was above the normal, the figures for 9 a.m. being 30·003 inches. The maximum recorded was 30·368 inches on the 6th, and the minimum 29·617 inches on the 14th.

JUNE.—The weather of this month was divided into two well defined periods of almost equal length. The first was remarkable for its brilliant sunshine, and complete absence of rainfall. With the 16th, however, a change to rain took place, and the weather remained unsettled to the close. Most unfortunately in this locality, the most important day of the year, the 22nd,

proved not only the wettest of the month, but also of the year ; the heavy rain also just covered that portion of the 24 hours when it was least wanted.

The mean temperature was 60·1 degrees, a value over half a degree above the normal. The maximum was 79 degrees on the 1st and 6th, and the minimum 43 degrees on the 26th—a range of 36 degrees. The warmest day was the 1st, with a mean temperature of 66·5 degrees ; and the coldest the 26th, mean 50 degrees.

The rainfall was 3·09 inehes at Clifton, and 2·58 inehes at Frampton Cotterell, falling upon 16 and 11 days respectively. These values show an excess of over half an ineh. At Clifton on the 22nd the amount measured was 1·22 inehes.

Mean atmospheric pressure at 9 a.m. was 30·045 inehes, a value above the average. The greatest pressure recorded was 30·479 inehes on the 7th, and the least 29·529 inehes on the 18th.

JULY.—This month brought the most glorious summer weather within living memory, being one of phenomenal sunshine and heat throughout. To its credit, also, it must be remembered that its hottest days were as a rule tempered by refreshing breezes. Indeed, with just a day or so of substantial rainfall the month from every point of view would have been perfect. As, however, English vegetation is not used to so complete an absence of rain combined with such great heat, the countryside at the close presented a truly pitiable appearance. An altogether unique experience of the month was a remarkable dust storm which swept over the Bristol district on the 29th.

The “total” rainfall of the month consisted of a fall at Frampton Cotterell of 0·02 ineh on the 26th ; while at Clifton measurable quantities on three days amounted to 0·09 inch, 0·07 inch of which fell upon the 26th. The average for the month at Clifton is 2·90 inehes. At Bath no rain whatever fell throughout the month.

The mean temperature was 66.7 degrees, a value over four and a half degrees above the normal, and seven above that of the month in 1910. The maximum recorded was 91 degrees on the 29th, and the minimum 48 degrees on the 3rd and 11th. The warmest day was the 29th, with a mean temperature of 76.5 degrees; and the coldest the 2nd, mean 55.5 degrees.

Mean atmospheric pressure at 9 a.m. was 30.173 inches, these figures being much above the average. The maximum was 30.568 inches on the 11th, and the minimum 29.700 inches on the 1st.

**AUGUST.**—This month opened with six days of unsettled and showery weather, the total rainfall for the period exceeding half an inch. Then the prevailing characteristics of the season re-asserted themselves, the weather becoming as dry as ever; while the accompanying heat became so great that all previous records were left behind. The concluding week brought some welcome rainfalls, but the amounts were only just sufficient to moisten the surface of the soil.

The mean temperature was identical with that of July, the excess over the average being 5.7 degrees, and over that of the month in 1910 6.4 degrees. At Clifton the maximum was 90 degrees and at Frampton Cotterell 93 degrees on the 13th, while the minimum were 47 and 40 degrees respectively. The warmest day was the 13th, with a mean temperature of 75 degrees; and the coldest the 30th, mean 59.8 degrees.

Mean atmospheric pressure was above the normal, the value at 9 a.m. being 30.005 inches. The highest reading recorded was 30.250 inches on the 31st, and the lowest 29.554 inches on the 21st.

**SEPTEMBER.**—At first this month brought no diminution of warmth, instead during the early days the temperature daily increased until upon the 8th the unprecedented maximum for so late in the season of 90 degrees in the

shade was reached. Upon the succeeding day, however, a shift of wind from the south to the north-east brought so great a change that the thermometer did not reach 70 degrees. Then after three pleasantly warm days, a rainfall, heavier than anything experienced locally, with one exception since March, brought the most magnificent summer within memory to an abrupt conclusion. The change indeed proved so complete that, although the weather upon the whole continued fine and sunny, only three days after the 13th possessed a temperature equal to the average for the time of year.

The mean temperature was 59·4 degrees, a value over two degrees above the average. The maximum was 90 degrees on the 8th, and the minimum 38 degrees on the 22nd. At Frampton Cotterell the extremes were 91·7 degrees and 31·5 degrees upon the same dates. The warmest day was the 8th, with a mean temperature of 74 degrees, and the coldest the 30th, mean 49 degrees. One frosty night was experienced.

The total rainfall locally varied from 1·42 inches at Frampton Cotterell, to 1·61 inches at Clifton; falling upon 9 and 12 days respectively. The value for Clifton shows a deficiency of 1·30 inches.

Mean atmospheric pressure was slightly above the average of the past twelve years, the figures for 9 a.m. being 30·081 inches. The maximum recorded was 30·398 inches on the 18th, and the minimum 29·472 inches on the 21st.

OCTOBER.—More than half of this month passed away before any rain worth mentioning fell, the weather being very fine, warm, and pleasant. Upon the 21st, however, rain at last came in real earnest, and from then onwards fairly substantial quantities were almost daily added to the month's total.

The mean temperature was 51·1 degrees, a value well above the average, but slightly below that of the month in 1910. The maximum recorded was 66 degrees on the 19th, and 31 degrees on the 29th. The warmest day was the 19th, with a mean temperature of 60 degrees ; and the coldest the 28th, mean 40 degrees. One frosty night was experienced.

The total rainfall at Clifton was 2·89 inches, and at Frampton Cotterell 2·51 inches ; falling upon 16 and 15 days respectively. These values show a deficiency of just about an inch.

Atmospheric pressure was slightly below the normal, the mean at 9 a.m. being 29·914 inches. The extremes recorded were 30·552 inches on the 10th, and 28·927 inches on the 22nd.

**NOVEMBER.**—This month provided typical English weather for the time of year, commencing with a longer sequence of rainy days than had previously occurred since January 1st. It is true this wet weather was accompanied by high temperatures, but the later and drier portion of the month was cold, so that the average for the whole closely approximated to the normal for the season.

The mean temperature was 43·3 degrees, a value nearly four above that of the month in 1910, but still slightly below the average. The extremes were 56 degrees on the 1st and 4th, and 30 degrees on the 22nd, 26th and 28th. The warmest day was the 4th, with a mean temperature of 53 degrees ; and the coldest the 27th, mean 33·5 degrees. Seven frosty nights occurred at Clifton and six at Frampton Cotterell.

The total rainfall locally varied from 4·73 inches at Clifton, to 3·94 inches at Frampton Cotterell ; falling upon 22 and 19 days respectively. These amounts show an excess of nearly an inch and a half.

Mean atmospheric pressure was very deficient, the value at 9 a.m. being 29.726 inches; the average for the past twelve years being 29.965 inches. The maximum recorded was 30.305 inches on the 29th, and the minimum 28.845 inches on the 18th.

**DECEMBER.**—Whatever may have been the shortcomings of the majority of the preceding months of the twelve in regard to their rainfall, December in this respect certainly did its level best to make amends for their behaviour. Indeed between the 1st and 31st, which were without rain, no fewer than 27 rainy days occurred, totalling between them an amount more than equal to twice the normal quantity. If unlike in its rainfall, however, in its temperature the month was in close agreement with the character of the year, proving as it did the warmest December of the present century.

The mean temperature was 44.3 degrees, nearly five above the average. The maximum recorded was 51 degrees on several dates, and the minimum 31 degrees on the 6th. The warmest day was the 17th, with a mean temperature of 50 degrees; and the coldest the 6th, mean 38 degrees. Only two frosty nights were experienced.

The total rainfall amounted to 7.34 inches at Clifton, and 5.71 inches at Frampton Cotterell; the number of rainy days being 27. At Clifton the average for the month is 3.40 inches.

Mean atmospheric pressure was much below the normal, the figures for 9 a.m. being only 29.680 inches. The maximum was 30.360 inches on the 31st, and the minimum 29.083 inches on the 21st.

Looking at the twelve months as a whole, their overshadowing feature was the period of unprecedented sunshine, heat and drought, which covered practically half the year; that is from the commencement of May until the end of the third week of October.

Throughout this time the temperature, apart from a portion of June and the last half of September, was continuously above the average ; while the only wet period worth mentioning covered the last fortnight of June. Other features of interest were the dry weather and excessive pressure of the greater part of January and the first half of the succeeding month, the great cold of the first week of April, and the incessant rainfalls of December.

H. H. HARDING, F.R. Met. Soc.

For the rainfall values at Clifton, and also for those relating to temperature (unless otherwise noted) given in the foregoing notes, I am indebted to the courtesy of Mr. R. F. Sturge, F.R. Met. Soc.

The rainfall values for Clifton are taken at an altitude of 215 feet above sea level, and those for Frampton Cotterell at 166 feet.

## CLIFTON COLLEGE.

## Meteorology for the 52 Weeks, ending December 30th, 1911.

Height above Mean Sea Level—250 feet.

1911.	BAROMETRIC PRESSURE at 30° and Sea Level			Mean Temperature	Highest Mean Daily Temperature	Lowest Mean Daily Temperature	Max. Temperature in Shade	Min. Temperature at 3 ft above ground	Min. Temperature on ground	Mean Daily Range of Thermometer	Greatest Daily Range of Thermometer	Smallest Daily Range of Thermometer	Mean Humidity	Grains of Vapour in a cubic ft. of air	Prevalent Wind
	Week Ending	Mean	Highest												
Jan. 7	30-13	30-28	29-76	38-6	44-6	35-9	47-9	30-2	24-0	9-2	15-2	5-1	86	2-40	W.—N.
" 14	30-25	30-64	29-82	39-8	47-4	35-1	49-3	30-2	24-9	8-4	14-4	2-9	88	2-59	S.W.—N.
" 21	30-62	30-83	30-32	30-32	35-6	32-6	44-1	27-3	23-9	10-1	15-7	4-8	93	2-38	W.
" 28	30-42	30-52	30-32	42-9	46-7	38-8	50-4	31-6	27-8	6-7	15-6	2-2	88	2-81	S.—S.W.
Feb. 4	30-61	30-82	30-33	35-0	41-8	29-5	44-4	23-1	19-2	9-8	13-0	4-7	86	2-05	E.N.E.
" 11	30-48	30-72	30-00	37-6	39-3	35-9	45-2	31-2	25-8	7-3	12-8	3-7	83	2-07	N.W.—S.E.
" 18	30-33	30-45	29-90	44-1	50-7	36-2	54-4	28-2	23-4	10-4	17-8	4-9	82	2-75	S.W.—W.
" 25	29-75	30-06	29-44	45-3	48-0	39-7	53-5	33-6	27-7	8-4	14-7	3-0	80	2-83	W.N.W.—W.
Mar. 4	30-08	30-45	29-52	46-5	48-1	43-9	53-0	38-9	33-5	8-1	11-8	4-3	86	3-13	W.—S.
" 11	30-09	30-25	29-94	41-7	44-6	39-7	48-7	32-2	28-1	9-7	15-1	5-7	82	2-49	N.W.—S.W.
" 18	29-72	29-86	29-59	39-4	40-1	38-3	46-3	30-4	25-2	10-4	15-9	4-0	77	2-18	N.W.
" 25	29-65	30-13	29-76	42-1	47-1	37-7	55-4	35-4	28-9	8-7	16-5	0-6	82	2-52	E.—N.E.
April 1	29-92	30-16	29-74	43-7	48-8	38-8	58-3	33-4	29-0	11-9	19-0	5-6	84	2-62	N.E.—E.
" 8	30-22	30-35	30-01	39-3	48-8	32-9	54-3	27-2	24-2	9-6	16-7	4-4	78	2-26	E.N.E.
" 15	30-33	30-45	30-18	46-2	50-2	43-3	61-9	31-7	26-0	16-8	27-0	7-7	72	2-65	N.—N.W.
" 22	29-97	30-39	29-42	50-5	53-4	48-9	60-2	42-0	36-9	11-9	16-4	7-5	72	3-14	W.—S.
" 29	29-77	30-12	29-32	49-8	52-7	48-1	58-0	42-3	37-9	10-3	13-4	6-7	78	3-34	N.W. to S.W.
May 6	29-89	30-26	29-58	49-8	54-3	47-7	61-2	40-3	35-9	13-3	17-7	4-2	71	2-99	S.—S.W.
" 13	29-92	30-21	29-64	58-3	61-3	55-4	73-6	43-3	37-9	20-9	26-2	12-0	85	4-2	N.E.
" 20	29-95	30-23	29-62	56-1	59-0	51-4	68-1	47-9	45-4	12-9	18-2	7-0	74	3-83	N.E.—N.W.
" 27	30-07	30-24	29-90	57-9	65-6	50-9	73-4	40-8	39-7	19-1	24-7	9-7	75	4-06	W.—N.E. by N.
June 3	30-07	30-18	29-95	66-2	69-0	64-6	79-4	52-0	46-8	21-8	25-3	16-3	71	4-79	E.
" 10	30-24	30-47	29-93	65-5	70-8	55-4	81-8	44-8	39-7	21-8	29-7	11-9	61	4-13	E.
" 17	30-00	30-20	29-73	59-1	61-1	55-5	70-9	44-5	38-9	18-9	22-7	13-9	66	3-69	N.—S.E.
" 24	29-77	30-09	29-55	59-1	62-1	56-4	68-1	50-9	46-8	9-8	11-9	5-3	74	4-29	W.

## CLIFTON COLLEGE.

## Meteorology for the 52 Weeks—Continued.

Height above Mean Sea Level—250 feet.

1911.	BAROMETRIC PRESSURE at 30° and Sea Level				Mean Temperature	Highest Mean Daily Temperature	Lowest Mean Daily Temperature	Max. Temperature in Shade	Min. Temperature at 4ft above ground	Min. Temperature on ground	Mean Daily Range of Thermometer	Greatest Daily Range of Thermometer	Smallest Daily Range of Thermometer	Mean Humidity	Grains of Vapour in a cubic ft. of air	Prevalent Wind.
	Week Ending	Mean	Highest	Lowest												
July 1	30·00	30·32	29·68	57·1	61·2	52·2	50·9	67·3	44·8	39·8	10·6	20·2	4·1	7·5	4·03	N.W.—S.W.
" 8	30·31	30·49	29·96	64·8	79·6	72·7	63·0	87·1	49·5	45·5	19·8	25·4	11·8	60	4·36	W.—S.W.
" 15	30·47	30·57	30·29	68·2	74·8	72·2	64·2	86·1	49·9	46·2	24·2	32·7	12·2	58	4·28	E.—N.E.
" 22	30·08	30·24	29·81	67·8	74·8	74·2	68·9	86·9	55·1	50·4	17·2	24·1	10·7	64	4·74	N.W.—S.
" 29	30·01	30·25	29·88	70·7	78·0	67·1	91·0	91·0	56·5	52·8	21·5	25·9	18·0	61	4·85	N.W.—S.W.
Aug. 5	29·99	30·16	29·81	66·6	69·3	63·5	77·2	77·2	49·9	—	14·8	27·3	5·4	72	5·36	S.—S.W.
" 12	30·14	30·23	29·95	68·8	74·1	74·1	64·1	88·0	45·4	51·5	21·8	40·7	13·0	68	5·36	S.W.—S.E.
" 19	30·12	30·26	29·88	70·9	78·5	78·5	66·9	90·1	55·6	50·4	22·3	27·3	14·8	61	4·93	S.W.
" 26	29·80	30·01	29·58	65·8	69·8	63·6	78·6	54·4	47·7	14·4	19·5	6·3	73	5·03	S.—S.W.	
Sept. 2	30·09	30·30	29·91	64·0	67·3	59·3	77·2	48·4	44·8	15·8	23·6	8·4	72	5·07	S.W.	
" 9	30·19	30·32	29·97	67·9	73·0	63·5	90·9	54·0	48·7	24·4	35·7	11·1	62	4·87	S.—S.W.	
" 16	30·12	30·37	29·94	59·8	68·9	51·4	77·4	41·9	37·8	15·0	24·2	2·9	67	4·16	N.N.E.	
" 23	29·93	30·41	29·48	54·1	60·5	49·9	64·6	40·1	35·8	14·6	21·2	8·1	76	3·71	S.W.	
" 30	30·15	30·33	29·84	56·2	60·7	50·3	66·5	42·5	37·8	11·7	17·9	7·5	72	3·81	S.W. to N.W.	
Oct. 7	30·09	30·35	29·87	49·5	52·8	45·3	57·8	38·5	32·8	10·9	13·6	9·4	67	2·5	N.E.—N.	
" 14	30·23	30·55	30·02	52·2	56·8	47·1	63·5	37·1	33·1	15·5	20·1	7·0	84	3·56	E.	
" 21	29·98	30·25	29·46	56·4	59·6	53·0	66·2	49·4	48·0	7·8	13·8	3·6	83	4·13	N.E.	
" 28	29·33	29·77	28·90	47·5	54·5	43·5	57·9	38·1	35·1	9·1	15·1	5·1	85	3·6	S.W.	
Nov. 4	30·05	30·27	29·82	48·3	52·1	44·2	58·0	31·4	28·9	14·0	25·6	8·7	80	3·14	W.—S.	
" 11	29·70	29·93	29·52	45·4	52·4	40·1	55·1	32·7	28·2	9·0	14·8	1·9	79	2·62	S.W.	
" 18	29·55	30·24	28·87	48·4	51·5	43·3	55·3	35·2	31·0	9·2	19·9	3·9	85	3·36	S.W.	
" 25	29·61	30·04	29·00	39·4	43·4	36·1	47·1	30·8	26·9	7·6	10·9	4·2	79	2·25	N.E.	
Dec. 2	30·11	30·33	29·36	42·6	50·0	35·7	53·0	31·2	25·3	9·9	17·9	5·5	89	2·78	S.E.	
" 9	29·75	30·10	29·54	42·1	38·6	32·8	42·1	28·0	9·6	14·0	4·5	86	2·59	W.—S.W.		
" 16	29·44	29·88	29·11	45·3	47·3	43·4	53·4	39·2	31·9	9·3	13·4	4·4	88	2·92	S.	
" 23	29·63	30·16	29·07	47·0	51·6	43·0	53·9	35·2	29·0	6·7	17·7	1·8	89	3·21	S.—N.	
" 30	29·86	30·12	29·41	45·3	48·2	42·9	51·2	36·5	31·2	8·7	14·7	1·9	88	3·17	W.	

## Rainfall of 1911.

Taken at Clifton College.

WEEK. ENDING.	RAIN INCHES.	WEEK ENDING.	RAIN INCHES.
January 7	.325	July 15	Nil
„ 14	.805	„ 22	Nil
„ 21	.010	„ 29	.070
„ 28	.025	August 5	.335
February 4	Nil	„ 12	.110
„ 11	.110	„ 19	Nil
„ 18	.795	„ 26	.180
„ 25	.70	Sept. 2	.680
March 4	1.255	„ 9	Nil
„ 11	.565	„ 16	.610
„ 18	.800	„ 23	.492
„ 25	.795	„ 30	.285
April 1	.200	October 7	.070
„ 8	.185	„ 14	.370
„ 15	Nil	„ 21	.578
„ 22	.480	„ 28	1.025
„ 29	1.077	Nov. 4	1.597
May 6	.685	„ 11	2.010
„ 13	.355	„ 18	1.345
„ 20	Nil	„ 25	.015
„ 27	.006	Dec. 2	.380
June 3	Nil	„ 9	1.445
„ 10	Nil	„ 16	2.465
„ 17	.210	„ 23	2.200
„ 24	1.992	„ 30	0.610
July 1	.690		
„ 8	Nil		

D. RINTOUL.

## Rainfall 1911.

MONTH.	Rainfall in Inches.	Average of 30 Years.	Departure from Average.	No. of days on which .01 inches or more rain fell
January ... ..	1·165	2·595	- 1·430	10
February ... ..	2·590	2·248	+ 0·342	17
March ... ..	2·540	2·306	+ 0·234	15
April ... ..	1·847	2·262	- 0·415	13
May ... ..	1·075	1·968	- 0·893	7
June ... ..	2·690	2·453	+ 0·237	13
July ... ..	0·070	2·665	- 2·595	1
August ... ..	1·630	3·231	- 1·601	10
September ... ..	1·387	2·546	- 1·159	7
October ... ..	2·783	3·887	- 1·104	15
November ... ..	4·412	3·006	+ 1·406	19
December ... ..	6·915	3·602	+ 2·313	26
	29·104	32·769	- 3·665	153

D. RINTOUL.

**PART III.****CITY HOSPITALS.****Report of the General Medical Superintendent  
(Administrative).****1911.**

The Reports of the Resident Medical Officer at Ham Green, and of the Visiting Medical Officer at Novers Hill which follow, give details of the work in these Institutions.

**Hospital Accommodation.**

The tabular statement "Isolation Hospital Accommodation in Bristol since 1886," shows incidentally the vicissitudes through which hospital accommodation for infectious cases has passed, and makes it clear how we now have less available beds per head of population than we had 24 years ago.

The difference between then and now may be summed up thus :—

Then there were seven beds per 10,000 population, the majority of beds were provided by the Guardians, the population to be served was only 214,000 persons.

Now there are only four beds per 10,000 population at full cubic space (2,000 cubic feet), all the beds are in the hands of the Sanitary Authority, the population to be served is 357,000 persons.

The advantages gained now are eoneentration in administration, not only in regard to notification and removal of cases, but in regard to the Hospitals in use ; and the substitution in great part of well-equipped and well-nursed permanent Hospital Bloeks for ill-equipped and inefficiently nursed temporary wooden struetures.

The disadvantages are, the assumption of responsibility for isolation of cases formerly provided for by the Guardians, and for isolation hospital provision for a larger population ; without a corresponding *pro rati* increase in the number of beds.

The suceess aehieved in avoiding disastrous epidemics is quoted in evidence of the suffieieney of the present beds, but this view loses sight of the immense strain thrown on the personal faetor in mobilising insufficient forees, and is at best commendation of the triumph of administration over means.

No other large town is eontent with a less ratio of isolation beds to population than one per thousand.

The permanent closure of Clift House has made a per-eeptible differenee in the neeessary elasticity of our available isolation aeeommodation ; and the actual dilapidation of the original buildings on the Novers Hill site aceen-tuates a defieieney already suffieiently marked.

The neeessity for bringing up the available aeeommo-dation for the defensee of the City to at least the figure whieh obtained 24 years ago may without exaggeration be deseribed as urgent.

I am, Gentlemen,

Your obedient Servant,

D. S. DAVIES, M.D.,

General Medieal Superintendent City Hospitals.

**ISOLATION HOSPITAL ACCOMMODATION IN BRISTOL SINCE 1886.**

	Guardians.	St. Philip.	St. George.	Clift House.	Novers Hill.	Ham Green.	Population of City.	Total Beds.	Proportion of Beds per 1,000 Population.
1886	120	28					214,000	148	0·7
1894	60	48		30	50		226,000	188	0·8
1898	60	Closed.	6	Closed.	50		316,000	116	0·3
1900	Closed.	24	6	22	50	76	324,000	156	0·5
1901		24	Closed.	22	35	76	329,000	157	0·4
1902			Closed	22	35	76	334,000	133	0·3
1905				22	35	134	358,000	191	0·5
1906					Closed.	35	363,000	169	0·4
1911						35	357,000	169	0·4

CITY HOSPITAL, HAM GREEN,  
BRISTOL.

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**Report of the Resident Medical Officer  
for the Year 1911.**

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TO THE MEMBERS OF THE COMMITTEE OF MANAGEMENT.

GENTLEMEN,

I have the honour to submit to you the Thirteenth Annual Report of the work of this Hospital, for the statistical year ending December 31st, 1911.

There were 161 patients in Hospital at the beginning of the year, 897 were admitted, 930 were discharged and 37 died, leaving 91 in Hospital at the end of the year, 1,058 patients were therefore under treatment during the year.

The average daily number of patients in Hospital was 115. The highest number was 161 on January 1st, and the lowest 58 on July 1st.

The average length of stay in Hospital was 49 days for those who recovered.

The average death rate for all diseases was 3·8 per cent. Six deaths occurred within 48 hours; excluding these the death-rate was 3·2 per cent. This is rather higher than last year, and is due to the greater proportional number of cases of Diphtheria and Enteric Fever admitted to those of Scarlet Fever.

## SCARLET FEVER.

Ninety-two cases were in Hospital at the beginning of the year, 478 were admitted (as notified), 492 were discharged, 40 remained at end of year, and five died.

**Removal to Hospital** was effected in 83 per cent. during the first week of illness.

**Age Incidence.**—Of the patients discharged—18·9 per cent. were under 5, 47·5 per cent. between 5 and 10, 25·4 per cent. between 10 and 15, 8·2 per cent. over 15.

The average duration of detention in Hospital was 48 days for those who recovered.

**Fatality Rate.**—Calculated on those discharged this was 1 per cent. (males 1·4 per cent., females 0·7 per cent.). This very favourable mortality is to be accounted for by the mildness of the disease in most patients—only five per cent. suffering from Scarlatina Anginosa as in recent years—and also by the small number of patients admitted under five years of age, as at early ages the disease is most fatal.

**Cause of Death.**—One patient died from Gangrenous Ulceration of the Soft Palate, one from Broncho-pneumonia, one from Thrombosis of the Lateral Sinus, one from Acute Mastoiditis and Meningitis, and one from Acute Yellow Atrophy of the Liver. A list of the complications observed in all patients will be found in Table IV.

Two patients were operated on for Acute Mastoiditis, one later developed Meningitis and died.

**Sequelæ.**—One patient was discharged with Otorrhœa, two with Chronic Nephritis, and eight with Chronic Endocarditis.

Owing to the frequency of complications the disease causes more permanent damage than is measured by the mortality rate, as many of those who have suffered from Ear Disease—although well on discharge—may develope

it again later with damage to health and hearing. Those developing Heart Disease or *Chronic Nephritis* are unfortunately damaged seriously for life.

**Discharge of Patients.**—The period of detention of 115 of the **mild uncomplicated** cases was reduced to five weeks (dating from onset of disease). Not one return case occurred after this group. 203 in all were discharged under six weeks, most of them were still desquamating on the feet. No return cases occurred after any of these. This gives considerable support to the view which is gaining ground that late desquamation is not infective. Reducing the period of detention effects some saving in expenses of administration, enabling fewer wards to be kept open for the same number of patients. No ill effects followed to any of the patients.

**Return Cases.**—561 patients were discharged after suffering from Scarlet Fever (including 54 with mixed infections). Eight of these apparently infected someone else at intervals of 3, 4, 5, 7, 8, 8, 18 and 19 days. The infecting cases had been detained 42, 42, 42, 43, 43, 43, 44 and 53 days each. Five were uncomplicated, two had suffered from Otorrhœa, and one from Rhinorrhœa. All were well on discharge. This gives a return case-rate of 1·4 per cent., one of the lowest recorded in this Hospital. Two of the alleged return cases were very doubtful, as they came from a large institution where other possible sources of infection could not be excluded. Below are given the figures since 1904, which seem to show that prolonged detention does not diminish the risk of these cases :—

Year.	Average Stay in Hospital.	Return Cases, Rate per cent.
1904 ..	45·8 days	.. 2·4
1905 ..	51·7 ,,	.. 2·0
1906 ..	57·7 ,,	.. 1·6
1907 ..	56·2 ,,	.. 1·0
1908 ..	58·4 ,,	.. 2·3
1909 ..	60·1 ,,	.. 2·7
1910 ..	53·0 ,,	.. 1·7
1911 ..	48·0 ,,	.. 1·4

### DIPHTHERIA.

Thirty-five patients were in Hospital at the beginning of the year, 338 were admitted (as notified), 292 were discharged well, 20 died, and 40 remained at the end of the year.

**Removal to Hospital** was effected in 76 cases during the first three days of illness. Not one death occurred among these; 134 were admitted during the first four days of illness, two of these died—a mortality of 1·5 per cent. Among those admitted after the fourth day of illness (128), 18 died, a mortality of 14 per cent. As all cases receive Antitoxin on admission, these figures illustrate the importance of its early injection in sufficient quantity.

All cases are examined bacteriologically before or after admission.

The average stay in Hospital for each patient was 49 days.

**Fatality Rate.**—Calculated on those discharged the fatality rate was 6·4. Four cases died within 48 hours of admission. The omission of these reduces the rate to 5·1.

Of these cases 30 were carriers: none of these died. Among the remainder (282) shewing clinical signs of the disease the death-rate was 7·1 per cent. The seat of the disease was as follows:—

Throat	..	..	..	224
Nose	..	..	..	32
Larynx	..	..	..	5
Throat and Nose		..	..	29
Throat and Larynx	..	..	..	16
Throat, Nose, and Larynx		..	..	4
Ear	..	..	..	1
Nose and Ear	..	..	..	1
				—
Total	..	..	312	—

**Cause of Death.**—Seventeen deaths were due to Toxæmia and Syncope, one to Gangrene of the Fauces, one to Broncho-pneumonia, and one to Paralysis of the Diaphragm.

**Paralysis** followed in varying severity in 60 cases ; in six cases so severely as to necessitate feeding solely by a nasal tube for two to three weeks. These all eventually completely recovered. The worst cases of Paralysis ensued among those who came late under treatment.

Sixty-seven patients received some Antitoxin before admission.

Tracheotomy was performed on eight patients, of which three eventually died. One patient developed an Empyema and was operated on and completely recovered.

### **ENTERIC FEVER.**

Six cases were in Hospital at the beginning of the year, 70 were admitted (as notified), 52 were discharged, and three died, leaving six in Hospital at the end of the year. The remainder are found under other diseases. The cases were noteworthy in consisting largely of mild aberrant cases in children, which accounts for the favourable mortality, 5·5 per cent.

**Complications.**—Four suffered a relapse, three had repeated Hæmorrhages, two developed Broncho-pneumonia, and two Cystitis.

The average stay in Hospital was 50 days.

### **MIXED INFECTIONS.**

Seven cases were notified as suffering from more than one infection, twenty were found on admission with a double infection ; fourteen developed a second disease soon after admission ; while twenty-three contracted a second infection from the previous group.

Infection was, on no occasion, carried from one block to another, but was contracted through a patient developing a second disease, the infection of which was contracted outside.

To diminish the risk of cross infection the following system has been in use since April :—On the principle that most of the infectious diseases—with the possible exception of Chicken-pox—require close contact between either the infecting case or their secretions and the infected case, to enable them to spread, each patient is kept in bed for fourteen days at least after admission (by which time any secondary disease will have developed), and provided with a separate towel, bath towel, face flannel, comb, &c., which is kept exclusively for each one's use. The nurses, when doing anything for a patient which would involve the probable infection of their hands, wear thick rubber gloves, which are immersed in a strong disinfectant solution before attending to another patient. By this means the transference of infective particulate matter is prevented except by aerial currents, which is probably not effective in airy well ventilated wards such as ours.

An interesting example of the necessity of close contact was shown by an outbreak of German Measles in a Scarlet Fever ward. A patient developed German Measles ten days after admission. After 17 days the nurse who attended her developed the disease though no cases occurred among the patients. She was on duty for a few hours in the morning while the rash was coming out. After 16 days more, six patients whom she had washed all developed German Measles. No further cases occurred from this series among the remaining patients. Excluding these cases, 14 cases contracted a second disease in the first quarter of the year before this system was inaugurated. During the remainder of the year only three patients developed a second disease, viz., Chicken-pox from two introductions.

The following diseases were introduced into the main wards without any secondary cases :—Mcasles once, German Mcasles five times, Whooping Cough four times, Erysipelas twice. As soon as the secondary disease developed the patients were at once removed to an isolation ward, but previously the diseases used to spread even with this precaution.

The spread of secondary Rhinitis, and such conditions as Ringworm, Impetigo or Pediculosis is also apparently stopped. The system is really an extension of the “barrier system” applied to all cases.

**Group 1.**—Notified as mixed infections :—

*Scarlet Fever, Whooping Cough and Chicken-pox	2
Scarlet Fever and Diphtheria .. .. ..	5
* Both died.	

**Group 2.**—Found to have two diseases on admission :—

Scarlet Fever and Diphtheria .. .. ..	3
Scarlet Fever and Whooping Cough .. .. ..	3
Scarlet Fever and Measles .. .. ..	3
*Diphtheria and Scarlet Fever .. .. ..	12
Diphtheria and Measles .. .. ..	1

\* One died.

These cases being at once isolated caused no secondary cases.

**Group 3.**—Incubating a second disease :—

Scarlet Fever, incubating German Measles ..	5
“ , , , Whooping Cough ..	4
“ , , , Chicken-pox ..	1
“ , , , Erysipelas ..	1
Diphtheria, incubating Chicken-pox .. ..	1
* , , , Measles .. ..	1
“ , , , Erysipelas .. ..	1

\* Died.

**Group 4.**—Contracted a second disease in Hospital :—

Searlet Fever, contracted	Chicken-pox	..	12	
" "	German Measles	..	6	
Diphtheria	,,	Chicken-pox	..	1
"	,,	Searlet Fever	..	4

Total 64, with four deaths.

### OTHER DISEASES.

Notified as **Scarlet Fever**, found on admission :—

Nil	..	..	..	..	6
Measles	..	..	..	..	1
German Measles	..	..	..	..	4
Tonsillitis	..	..	..	..	1
Erythema	..	..	..	..	1
Scurvy Riekets	..	..	..	..	1 (died)

Notified as **Measles**, found on admission :—

Measles	..	..	..	..	3 (1 died)
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Notified as **Diphtheria**, found on admission :—

Tubercular Peritonitis	..	..	..	1	(died)
Aeute Tuberculosis	..	..	..	1	
Follieular Tonsillitis	..	..	..	1	
Lobar-pneumonia	..	..	..	1	(died)
Quinsy	..	..	..	..	1

Notified as **Enteric Fever**, found on admission :—

Gastro-Enteritis	..	..	..	9
Broncho-pneumonia	..	..	..	2
Lobar-pneumonia	..	..	..	1
Influenza	..	..	..	1
Malaria Fever	..	..	..	1
Food Poisoning	..	..	..	1
Appcndieular Abscess	..	..	..	1 (died)

Total 39, with five deaths.

### VACCINATION STATISTICS.

Doubtful Mark .. .. ..	2
No Mark .. .. ..	229
One Mark .. .. ..	223
Two Marks .. .. ..	199
Three Marks .. .. ..	184
Four Marks .. .. ..	130
Total ..	967

Among those discharged 24 per cent. were thus unvaccinated.

### STAFF ILLNESS.

One of the nursing staff contracted Enteric Fever, six Diphtheria, one Scarlet Fever, and five German Measles. None of the domestic staff contracted any infectious disease. Total loss of service from all causes 889 days. Average staff 68. Average loss of service 13 days each.

### GENERAL.

16,685 articles were disinfected in the Hospital Disinfecter, 162,489 articles were washed in the laundry.

In conclusion I beg to acknowledge the invaluable co-operation of Miss Garden in administering the Hospital, and the good work done by the nursing and working staffs.

I am, Gentlemen,  
 Your obedient Servant,  
 B. A. I. PETERS, M.B., D.P.H.,  
 Resident Medical Officer.

HAM GREEN HOSPITAL.

TABLE I.

Admissions and Discharges during 1911, with the number of Patients in Hospital at the beginning and end of the year.

Disease.	Remaining in Hospital at end of year 1910	Admissions as notified.	DISCHARGED.				Remaining in Hospital at end of Year 1911.	
			Recovered.		Died.			
			M	F	M	F		
Scarlet Fever	...	...	92	478	198	294	2	40
Diphtheria	...	...	34	338	132	160	10	37
Enteric Fever	...	...	6	70	28	24	1	2
Mixed Infections	...	...	29	11	60	—	4	8
Other Diseases	...	...	—	—	34	—	5	—
Totals	...	...	161	897	980	87	91	

HAM GREEN HOSPITAL.

TABLE II.  
Showing Ages and Sexes of Patients Discharged during 1911, with the Fatality Rate.

		Scarlet Fever.						Diphtheria.						Enteric Fever.						
		MALE.			FEMALE.			BOTH SEXES.			MALE.			FEMALE.			BOTH SEXES.			
Age.		Recovered.	Died.	Fatality per cent.	Recovered.	Died.	Fatality per cent.	Recovered.	Died.	Fatality per cent.	Recovered.	Died.	Fatality per cent.	Recovered.	Died.	Fatality per cent.	Recovered.	Died.	Fatality per cent.	
0-1	..	1	..	0	1	..	0	1	..	0	5	..	0-5	..	0	..	8	..	..	
1-2	..	4	..	..	3	..	..	2	..	..	8	..	..	..	..	..	13	..	..	
2-3	..	12	..	..	10	..	..	32	..	..	9	2	18	..	..	..	8	..	..	
3-4	..	8	1	11	15	..	23	1	40	..	15	3	25	5	..	..	2	1	33	
4-5	..	21	..	..	20	..	..	41	..	..	10	2	17	3	..	..	2	1	33	
5-6	..	30	..	..	25	1	3-5	57	1	1-8	4-5	9	2	10-15	..	2	1	33	4	
6-7	..	19	2	9-5	40	..	59	2	3-2	5-6	17	2	30	2	6-5	4	8	..	1	20
7-8	..	23	..	..	21	..	..	44	..	..	6-7	1	19	5	..	..	10	15-20	..	
8-9	..	15	..	..	31	..	..	46	..	..	16	1	15	1	..	..	2	..	..	
9-10	..	17	..	..	13	..	..	30	..	..	9-10	5	1	16	6	..	11	1	25	
10-15	..	31	..	..	95	1	1-1	126	1	0-8	10-15	24	..	27	..	..	51	..	..	
15-20	..	11	..	..	6	..	..	17	..	..	15-20	7	..	6	..	..	13	..	..	
Over 20	..	6	..	..	13	..	..	19	..	..	Over 20	3	..	14	..	..	17	..	..	
Totals...	198	3	1-4	294	2	0-7	492	5	1-0	132	10	7-0	160	10	5-9	292	20	6-9	Totals...	

## HAM GREEN HOSPITAL.

TABLE III.

## The Stage of the Disease when Patients were admitted to Hospital.

Disease.	DAYS OF 1ST WEEK.							WEEK OF ILLNESS.						
	1	2	3	4	5	6	7	1st	2nd	3rd	4th & over.	Carriers.		
Scarlet Fever ... ..	23	69	82	97	68	38	33	410	57	22	7	—		
Enteric Fever ... ..	—	5	5	5	3	5	2	25	17	6	6	—		
Recovered	2	28	46	58	42	29	16	221	38	3	—	30		
Died	...	—	—	—	2	6	5	3	16	4	—	—		
Mortality } per cent.	0	0	0	33	12·4	14·7	15·7	6·5	9·5	—	—			

HAM GREEN HOSPITAL.

TABLE IV.

Complications observed in Patients discharged during 1911.

Scarlet Fever.											
		Otorrhœa.	Rhinomorrhœa.	Cervical Adenitis.	Cervical Abscess.	Albuminuria.	Nephritis.	Endocarditis.	Mastoiditis.	Re-lapse.	
In 492 non-fatal cases	...	52	34	31	8	13	19	17	8	1	12
In 5 fatal cases	...	...	4	...	2	...	...	...	..	1	...
Total 497 cases	...	56	34	38	8	13	19	17	8	2	12
Percentage	...	...	...	11.3	6.9	6.8	1.6	2.6	3.9	1.6	2.4

PARALYSIS.											
Diphtheria.		Palate.	Eye Muscles.	Skeletal Muscles.	Diplopia.	Cervical.	Abcess.	Otorrhœa.	Heart Failure.	Severe albuminuria.	Vomiting.
In 292 non-fatal cases	34	11	7	1	19	1	20	20	1.2	17	7
In 20 fatal cases	5	1	...	1	9	1	...	...	1.2	1.2	1.2
Total 312 cases	39	12	7	2	28	2	20	20	2.4	29	19
Percentage	...	12.5	3.8	2.2	0.6	8.9	0.6	6.4	7.7	9.3	6.0

**HAM GREEN HOSPITAL.**

TABLE V.

**Monthly admissions as notified and daily average number in Hospital.**

1911.	Scarlet Fever.	Diphtheria.	Enteric Fever.	Other Diseases.	Total	Average Daily No. in Hospital in each Month
January ...	43	37	—	—	80	135
February	37	24	—	—	61	125
March ...	40	27	—	2	69	104
April ...	48	19	—	—	67	115
May ...	63	17	1	3	84	115
June ...	26	11	2	1	40	90
July ...	36	27	3	1	67	73
August ...	20	36	1	1	58	81
September	30	31	47	2	110	114
October ...	42	43	9	1	95	146
November	70	45	5	—	120	138
December	23	21	2	—	46	122
Year 1911	478	338	70	11	897	115

## HAM GREEN HOSPITAL.

Statistics for each Year since opening of Hospital.

TABLE VI.

## Admissions Classified according to DISEASE.

YEAR.	Scarlet Fever.	Diphtheria.	Enteric Fever.	Mixed Infections.	Other Diseases and Quarantine.	TOTAL.
1899 (From July 24th)	194	4	21	...	7	226
1900	571	70	38	..	...	679
1901	452	27	44	...	4	527
1902	536	128	42	21	...	727
1903	370	323	11	11	...	715
1904	374	317	26	2	...	719
1905	476	310	...	19	12	817
1906	439	342	8	9	19	817
1907	370	445	...	43	31	889
1908	219	513	13	11	21	777
1909	414	359	8	23	49	853
1910	709	308	15	...	4	1,036
1911	478	338	70	11	—	897
Totals	5,602	3,484	296	150	147	9,679

## Discharges and Deaths.

YEAR.	Scarlet Fever.		Diphtheria.		Enteric Fever.		Mixed Infections and other Diseases.	
	Discharges.	Deaths.	Discharges.	Deaths.	Discharges.	Deaths.	Discharges.	Deaths.
1899 (From July 24th)	127	5	3	...	3	...	5	...
1900	485	15	50	12	33	1	...	...
1901	452	10	34	1	39	5	...	..
1902	540	11	67	14	33	4	18	2
1903	377	4	308	17	17	2	12	...
1904	326	7	310	20	24	2	2	...
1905	426	16	271	13	...	...	25	5
1906	433	12	314	20	3	1	28	2
1907	405	15	387	34	4	..	58	1
1908	197	4	516	28	11	...	41	3
1909	420	9	359	14	6	...	63	5
1910	572	10	285	18	13	...	74	1
1911	492	5	292	20	52	3	94	9
Totals	5,252	123	3,196	211	238	18	420	28

Average Fatality per cent.      2·2      6·1      7·0      6·6

## NOVERS HILL HOSPITAL.

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### Medical Attendant's Report for the Year ending December 31st, 1911.

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#### Scarlet Fever.

Patients remaining from 1910 .. ..	40	174
„ admitted during 1911—Males .. ..	63	
„ „ „ Females .. ..	71	
„ discharged .. .. ..	145	
„ transferred to Ham Green .. ..	2	174
„ died .. .. ..	6	
„ remaining .. .. ..	21	

The average age of those admitted was 5 years, 3 days ; the youngest 15 months, the oldest 30 years, and next to this last one 17 years.

#### Vaccination of patients admitted :—

52 had good marks.

35 fair or moderate marks only.

7 poor and indistinct.

40 not vaccinated or had no marks.

#### Fatal Cases.

CASE 1.—Sex F., aet. 5—Scarlet Fever complicated with Whooping Cough and subsequent Congestion of Lungs. In Hospital 12 days.

CASE 2.—Sex M., aet.  $3\frac{1}{2}$ —admitted with a slight Scarlatinal looking rash, afterwards developing a very severe attack of Measles, which terminated fatally in 14 days. The Scarlatinal rash may probably have been a prodromal rash of Measles.

CASE 3.—Sex M., aet. 4—Scarlatina Anginosa. In Hospital 5 days.

CASE 4.—Sex M., aet. 6—supposed return case, developed very acute Kidney disease and finally Pericarditis. In Hospital 3 weeks.

CASE 5.—Sex F., æt. 3—Scarlatina Anginosa. In Hospital 6 days.

CASE 6.—Sex M., æt. 4—Scarlatina Anginosa, complicated with Nasal Diphtheria and Albuminuria. In Hospital 9 days.

### Diphtheria Infection.

Culture swabs were taken from all throats, ears and noses presenting suspicious symptoms or signs out of the ordinary course of Scarlet Fever, when it was found on bacteriological examination that 24 out of the number of 28 suspected cases where such swabs had been taken were found to be infected with Diphtheria growth in a more or less severe form.

There were four cases admitted which proved not to be Scarlet Fever, and five cases were doubtful; and in these latter cases it was found there was suspected Diphtheritic infection, either in throat or nose.

It is quite possible that these cases may have had a Scarlatinal rash due to the Diphtheria, but such rashes are transient and prove not to be Scarlet Fever.

One case admitted proved to be Hip disease, and was in due course transferred to the Bristol Royal Infirmary.

The following complications and sequelæ were met with during the year :—

Albuminuria and Nephritis	..	..	11
Axillary Abscess	..	..	1
Erythema Nodosum	..	..	2
Glandular Abscesses	..	..	11
Heart Disease :			
Valvular	..	..	3
Pericarditis	..	..	1
Ditto, with effusion	..	..	2
{			6
Hæmatemesis	..	..	1
Impetigo	..	..	4
Jaundice	..	..	3
Mastoid Abscess	..	..	3
Otorrhœa	..	..	15
Pneumonia	..	..	1
Rheumatism	..	..	5
Rhinitis and Rhinorrhœa	..	..	12

## Other diseases not attributable to Scarlet Fever :--

Chicken-pox	..	..	..	..	3
German Measles	..	..	..	..	4
Dirty heads (lice, nits, or both)			..	15	
Body Lice	..	..	..	..	1
Ringworm	..	..	..	..	4
Eczema	..	..	..	..	2

One case of Infraorbital Neerosis was being treated at and was transferred from another Hospital where it had developed Scarlet Fever.

Amongst other diseases it will be noticed that there have been three cases of Chicken-pox and four of German Measles. Whenever such diseases crop up or are brought into Hospital they perplex one to the utmost to know how to arrange so as to prevent the spread of infection to other patients—isolation accommodation being so very limited, and the nursing staff insufficient for the purpose. It must be quite apparent to anyone that the same nurses cannot attend indiscriminately to such cases without serious risk of spreading infection.

During the year considerable trouble was caused by a large number of convalescent patients developing sores, abnormal temperatures and other septic conditions. It is impossible to trace or account for the unusual number of septic cases in spite of antiseptic precautions.

All the cases, however, were amenable to treatment, but many necessitated more prolonged detention in Hospital.

There was no case of Small-pox admitted during the year.

G. C. PAULI, M.R.C.S., L.R.C.P.,

Medical Attendant.



	NOVERS HILL			HAM GREEN.		
	Year ending 25th March, 1911	Year ending 25th March, 1912		Year ending 25th March, 1911	Year ending 25th March, 1912	
Salaries and Wages:—	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Medical Superintendent.....	50 0 0	50 0 0	50 0 0	50 0 0	50 0 0	50 0 0
Medical Officer .....	200 0 0	200 0 0	181 13 8	224 3 2		
Special Services as <i>locum tenens</i> .....	....	....	80 4 0	13 16 0		
Medical Consultations .....	....	....	3 3 0	10 10 0		
Matron .....	88 0 0	68 10 10	108 0 0	108 0 0		
Nurses, Officers and Servants .....	712 8 4	800 5 1	2411 15 1	2217 8 3		
Contribution to Workmen's Compensation Fund .....	3 9 4	3 10 8	9 8 7	9 5 0		
PROVISIONS, viz.: Meat .....	160 1 7	144 1 8	422 14 8	467 18 11		
Fish and Ice .....	35 2 10	32 1 6	88 9 10	79 14 5		
Poultry and Game .....	7 19 4	8 1 8	23 6 9	23 10 10		
Bread and Flour .....	42 2 3	40 9 1	216 4 8	169 10 11		
Milk, Butter and Eggs .....	149 18 5	146 16 4	649 10 9	579 19 1		
Groceries.....	87 7 8	113 10 1	363 3 6	393 6 10		
Vegetables and Fruit .....	12 19 7	14 13 2	176 12 10	213 6 7		
Wine and Spirits .....	1 3 6	1 2 6	5 4 6	6 12 6		
Mineral Waters .....	0 12 6	1 0 0	4 11 2	6 10 6		
Tithe Rent, Rates and Insurance .....	226 17 9	218 17 4	484 16 4	473 1 3		
Rent of Telephone .....	10 10 0	10 10 0	41 0 0	41 0 0		
Rent of Cottage .....	....	....	9 19 0	5 5 10		
Coal and Firewood .....	143 1 2	147 1 9	650 19 9	565 8 8		
Water, and Hire of Meter .....	26 3 6	29 5 0	240 1 0	208 5 0		
Gas .....	64 3 0	70 0 3	....	....	....	....
Cleaning Materials and Baskets .....	52 16 3	57 13 2	183 15 0	128 8 9		
Sweeping Chimneys .....	....	....	10 11 0	5 10 0		
Crockery, Cutlery and Glass .....	....	7 5 9	16 0 0	20 10 2		
Linen, Drapery, and Uniform Clothing .....	37 15 9	85 10 2	380 17 1	187 8 4		
Furniture, Fittings, and Bedding .....	24 12 0	6 15 11	55 4 7	5 14 4		
Blankets.....	....	....	....	130 9 0		
Mackintosh Sheeting .....	9 15 0	....	....	....	....	....
Drugs and Chemicals .....	29 7 3	32 0 2	262 6 1	211 10 9		
Maintenance of Battery .....	....	....	30 0 0	30 0 0		
Electrical Fittings, and Inspection of same .....	....	....	27 8 7	38 9 5		
Painters' Work .....	....	110 10 11	294 12 10	244 17 4		
Plumbers' Work .....	7 19 8	12 13 10	....	....	....	....
Ironmongery, Fittings, and Repairs .....	50 12 10	50 8 9	111 16 8	48 15 8		
Cement Work and Structural Alterations .....	12 17 0	....	....	31 3 0		
Extension of Lodge .....	105 10 0	0 15 0	....	....	....	....
Repairs to Roadway .....	9 8 1	....	....	....	....	....
Lathe and Fittings .....	....	....	....	25 16 0		
Hot Water Tank.....	....	17 5 0	....	....	....	....
New Boiler .....	....	....	43 0 0	....	....	....
Repairing Fencing .....	7 19 10	....	....	....	....	....
Mould, Seed, Plants and Manure, etc. ....	22 8 0	20 3 9	3 6 6	10 17 1		
Planting Shrubbery .....	....	....	....	28 13 0		
Hauling and Cab Hire .....	8 11 0	12 4 7	106 11 7	89 2 3		
Carriage of Goods, and Bridge Tolls.....	....	....	8 3 5	10 11 4		
Railway and Tram Fares.....	....	....	12 19 2	7 19 11		
Removal of Bodies .....	....	....	7 0 0	10 17 6		
Printing, Stationery, and Advertising .....	12 8 10	11 5 2	63 17 1	47 19 5		
Papers, Periodicals, and Books .....	4 9 10	4 12 10	6 13 3	7 15 4		
Postage and Contract Stamps .....	15 19 6	8 15 3	30 15 0	22 19 1		
Toys and Decorations .....	3 2 2	2 17 8	10 5 0	8 10 7		
Pigs, Fowls, Ducks, Eggs, etc. ....	....	6 1 4	11 19 0	10 0 6		
Medical Attendance and Maintenance of Convalescent Patients, Hospital Ship .....	....	20 12 11	....	....	....	....
Food, etc., for Pigs and Fowls .....	....	22 15 9	22 2 3	22 0 10		
Petty Disbursements .....	7 5 6	6 1 5	10 13 7	11 6 8		
TOTAL EXPENDITURE IN THE YEAR.....	£2444 19 3	£2596 6 3	£7930 16 9	£7264 0 0		

J. CROMPTON, F.S.A.A., City Accountant.

Number of Patients in the year .....	159	148	1146	951
Total Cost per week for each Patient, including all the Working Expenses .....	s. d.	s. d.	s. d.	s. d.
	40 7½	31 1	20 0½	25 3



**PART IV.****REPORT OF THE CHIEF INSPECTOR OF NUISANCES.**

PUBLIC HEALTH DEPARTMENT,  
40 PRINCE STREET,

1911.

February, 1912.

To the Chairman and Members of the Health  
Committee.

GENTLEMEN,

I have once again the honour of submitting the following brief report, with summaries, showing the amount of work effected in this Department during the year 1911.

The complaints and applications received at the Office numbered 1619, as against 1295 in the previous year (an increase of 324), all of which were duly enquired into as quickly as possible, and wherever a nuisance existed, steps were immediately taken for its abatement. In 369 instances no nuisance was found, so that no action was necessary ; this works out at 22·79 per cent. of the whole. Last year the number equalled 22·9 of the whole. A considerable number of the applications were from persons changing residence who wished to have some guarantee that the house they proposed to take was in good sanitary condition, and in this way a considerable amount of good work has been accomplished. People will not take a house when the drains, etc., are known to be defective, and the owners prefer doing whatever is necessary to losing the prospect of a tenant. The public also now recognise that complaints are always treated as strictly confidential.

In the month of August complaint was received of a plague of crickets at Eastville, which proved to be of such magnitude, that I was obliged to detail one Inspector specially for this work, with two labourers to assist him in exterminating the pest, and it is no exaggeration to state there were millions of them. It was a month before they were done with at a cost of a little over £57 to the Authority.

2,023 cases of notifiable infectious disease were duly enquired into by the District Inspectors and the results entered on the case cards as required by the Medical Officer of Health. This is a decrease of 55 on the number notified last year (2078). 5,475 visits were made to infected houses, as in many instances the cases nursed at home require frequent visiting. When children attend the elementary Schools, cards are made out and sent to the Head Teacher of the School as well as to the School Medical Officer of the Education Committee, and this entails a considerable amount of clerical work, as three cards are required for each case.

2,080 infected houses were disinfected, and 51,061 articles of bedding, clothing, &c., removed, disinfected by steam, and returned to the houses. 652 similar articles were destroyed, their condition being such that disinfection was impossible.

No case of Small-Pox was notified during the year.

The clothing of patients removed to Ham Green and Novers Hill Hospitals is not included in the above totals, as the Hospitals are both equipped with a Washington Lyons Steam Disinfecter.

Non-Notifiable Infectious Diseases, such as Measles, Whooping-Cough, Chicken Pox, Mumps, &c., were also visited on receipt of notification from the Elementary Schools that certain children were absent from school in consequence of any of these diseases. 5,643 visits were

thus paid (3,461 more than last year), and leaflets of precautions given to the parents. In acute cases the parents were advised to seeure proper medical attendance, and often did so. Disinfection is also offered and carried out wherever considered advisable, or of any practical use.

378 cases of Infantile Diarrhoea were inquired into during the Autumn Months, full particulars of feeding and sanitary surroundings obtained and entered on card provided for the purpose by the Medieal Officer of Health.

### PHTHISIS.

This terrible disease is still very much in evidence, 979 notifications being received during the year, viz. :— 327 voluntary from Medical Practitioners, 196 from Poor Law Offieers, and 456 from the Medical Officers of Hospitals and such like Institutions, who are now compelled under the Public Health (Tuberculosis in Hospitals) Regulations, 1911, to notify all cases coming under their treatment. Probably many of those so notified, have been previously notified by private Practitioners, but every case has to be visited by the District Inspectors and very careful notes made of the conditions of the patient's surroundings. Only too often it is found that the other members of the family are obliged to not only oeeupy the same sleeping rooms, but the same bed, and that not too clean, whilst there is often no food in the eupboard.

There were 410 deaths during the year, 56 more than last year.

Disinfection of rooms, bedding, &c., is carried out in all cases after death, on removal from one home to another, and in acute cases whenever considered necessary, and disinfectants are also supplied gratuitously for Sputum Flasks used by poor patients. I need scarcely say that the Inspectors find the continued visiting of these cases is very depressing.

## NOTICES TO ABATE NUISANCES.

2,376 informal or preliminary notices were served, and as usual were so successful that only 308 statutory notices were required to enforce compliance with the informal notices. These statutory noticees were all complied with except one, for which a Magistrate's Order had to be obtained before the nuisance was abated. This is the first nuisance case I have had at the Police Court for several years.

In addition to the written notices, a considerable number of verbal requests were made to property owners, with satisfactory results.

Drain testing has again occupied a considerable portion of the Inspector's time, the smoke test having been applied 1,522 times, besides a large number of water and chemical tests.

A summary of the work effected by the whole of the Inspectors is appended.(Table 1.)

By arrangement with the Board of Guardians the Masters at each of the Workhouses have for some time past given notice to the Medical Officer of Health of the removal, for burial by friends or relations, of the bodies of persons dying in the Workhouses. These noticees give particulars as to where the body has been taken, together with the name and address of the undertaker. Your Inspectors then see that the body is not kept about for any undue length of time, as was often the case previously, chiefly for the purpose of going round with the hat. 317 intimations of these removals were received during the year.

### Houses Let in Lodgings or Tenement Houses.

254 May Noticees for Limewashing and Cleansing of these houses were served in accordance with the Bye-Laws, and resulted in the cleansing of 1,180 rooms and 209 passages and stairs.

I am pleased to say that the Inspector recently appointed for this work, has proved to be in every way a success, having zealously and tactfully carried out his duties, as evidenced by the improved condition of many of the houses.

### **Combined or Party Drains.**

Seventeen combined or party drains to which the drains of 167 houses were connected have been relaid during the year, and the cost thereof apportioned amongst the various owners. The Bristol Corporation Act of 1905 renders this a comparatively easy matter to what it formerly was.

### **Slaughter Houses.**

The Slaughter Houses in the City now number 99, five having been struck off the Register during the year. Three of these were permanent licenses, and two annual licenses. There are now 60 with the old permanent licenses and 36 with annual licenses, one for foreign animals at Avonmouth Docks and two Knackers Yards.

These are all visited as frequently as possible by Inspectors Thomas and Gitsham, those for the slaughtering of bacon pigs being visited daily. During the year the two Inspectors were responsible for the destruction of 49 tons, 15 cwt., 3 qrs. and 10 lbs. of meat of various kinds, consisting of the entire carcases of 41 beasts, 21 sheep, 147 pigs, 4 calves and 6 lambs ; the remainder being parts of carcases and odd pieces of meat.

There were also destroyed 204 head of poultry and game, 213 rabbits, 1,766 packages of fish (not weighed), 867 of vegetables, and 278 of fruit, all of which were unfit for food, and were voluntarily surrendered, with the exception of 66 turkeys, which were seized and subsequently condemned by a magistrate.

In November last the S.S. "Lismore" arrived from Cork after a very rough passage, with the following number of dead animals on board, viz., 163 beasts, 7 sheep, 10 pigs, and 2 calves. The animals were carted away to the Knackers Yards and destroyed under the supervision of Inspector Thomas. The weight of meat destroyed from this boat amounted to about 84 tons.

The Limewashing and Cleansing of the Slaughter Houses, as required by the Bye-Laws, has been so well carried out that no Statutory notice was required. Many improvements in the internal arrangements have been effected, particular attention being given to the floors and paving.

It must be quite obvious that two Meat Inspectors cannot possibly be at all these private Slaughter Houses at the time of killing, scattered as they are throughout the City and miles apart. It is thus apparent that many carcases escape inspection until they get to the shops, where the offal is not taken as a rule. It is, however, with much pleasure that I again bear testimony to the helpful manner of the majority of the butchers and bacon curers in the City, who, when they have a doubtful carcase and an Inspector is not in the neighbourhood, telephone to the Office for one to come at once : this he does and his decision as to the condition of the carcase is final. I must again express my regret that apparently there is no prospect of the provision of Public Abattoirs.

#### Housing, Town Planning, &c., October, 1909.

The work in connection with this Act, has been continued during the year, on the same lines as last year.

1352 houses have been inspected and particulars of their conditions entered in the Registers provided for that purpose, as required by the Act. 1,019 of this number were found to be more or less defective.

A reference to Table 3 on page 174 will show exactly how these houses have been dealt with. 118 of the houses inspected during the year under review still remain to be dealt with, but the work in connection with many of these is in progress, and a considerable number which are now void, must be put into good repair before being again occupied.

Ninety-four houses and two rooms were reported by me as being unfit for habitation, and closing orders made for 72 houses and 2 rooms. The closing orders for 3 of them have since been determined.

The owner of three houses in a court in the Horsefair, appealed to the Local Government Board against the Order, and an Enquiry was held with the result that the closing order was confirmed, with costs against the Appellants, although they employed an eminent Barrister to state their case.

In addition to the houses enumerated above, 97 houses in the Gas Lane area and 82 others in various parts of the City, 179 altogether, have been closed, and 173 demolished for various reasons. These 179 houses have not been entered in the Housing Registers, but they were all worn out houses, and would have been inspected and dealt with if they had not been closed voluntarily; they were all small houses. The systematic inspection is still in progress.

#### **Factory and Workshop Act 1901.**

I am again pleased to report that the work in connection with this Act has been carried on most amicably between H.M. Inspectors of Factories and this department. The workshops registered now number 1,483, a decrease of 391 from last year. The numbers vary considerably from year to year, 477 were struck off and 86 added during 1911. The appended summary (Table 2, M.O.H. Report on F. & W. Act), shows that 701 nuisances of various kinds were found and abated under notice during the

year, and that 2,685 visits were paid. These numbers are less than in previous years, as up to October, 1910, there were two Inspectors, but since that time only one has been employed for this work.

The houses of 421 Outworkers were visited, in which 106 minor sanitary defects were found and successfully dealt with under notice, either written or verbal. Twenty-two intimations of sanitary defects in factories were received from H.M. Inspectors, and eight of protected persons sent to them from this department.

### **Offensive Trades.**

Offensive Trades have received the usual attention, and 24 nuisances of various kinds found to exist have been abated, under notice, either written or verbal—chiefly verbal, accompanied by a suggestion for the adoption of some improved method to prevent recurrence. The limewashing of the walls and cleanliness of floors are specially looked after. During the very hot weather, when the Railway strike existed, and for some time after, considerable trouble was caused by the eartage of bones through the streets after having been held up in trucks on the railway sidings, and thus become fairly ripe. By tactful and reasonable suggestions an improvement was quickly effected, and the cause for complaint removed.

### **Smoke Abatement.**

Two hundred and five observations have been taken, resulting in the abatement of 22 nuisances from the emission of black smoke. Only one Statutory notice has been necessary, moral suasion having done the rest, and several other firms have now given orders for the necessary smoke abatement appliances to be fixed to their furnaces.

### Dairies, Cow Sheds and Milk Shops.

Inspector Leat has, as I fully expected, proved himself to be the right man in the right place. He has been extremely energetic, without being aggressive, in carrying out the duties in connection with this work, which requires great tact combined with courtesy.

The lighting, ventilation, paving, water supply and general cleanliness of all cowsheds have been well looked after during the year. There are now 114 cowsheds with accommodation for 948 cows.

The dairies give very little trouble, but the small retail dealers in milk are frequently very troublesome and require continual watching, being very careless in their methods of storing the milk and in keeping their utensils clean. Many of them soon give up the sale of milk rather than comply with the requirements of the Inspectors.

I hope that in the near future the storage and sale of milk will be prohibited in all shops except those used for dairy products only.

During the year 52 samples of milk have been taken for examination for Tubercle Bacilli, all of which gave negative results. Samples were taken at the cowsheds on completion of the early morning milkings or at the railway station on arrival of the churns by the early trains.

### Common Lodging Houses.

There are now 41 Common Lodging Houses in the City (including the one belonging to the Corporation, known as the Municipal Lodging House), having accommodation for 1,483 lodgers, viz. : 1,398 males, 35 single females and 25 married couples.

The By-Laws relative to these houses have again been so well observed that no legal proceedings have been necessary. Inspector Dimond is at all times very keen in looking after the cleanliness of the sanitary conveniences as well as the general cleansing and lime-washing.

In concluding my report I feel that I must express my gratitude to the Health Committee for the support always given me in the discharge of my duties. To the Medical Officer of Health, Dr. Davies, for invaluable advice and assistance, always so courteously and kindly given. I also desire to express my appreciation of the manner in which the Staff of Inspectors discharge their duties ; they work together like a machine, for the betterment of the sanitary conditions of the City and the health of the citizens.

My thanks are again due and are hereby gratefully tendered to the Town Clerk and his assistants, and to the City Engineer and his Staff for much valuable advice and assistance.

I am Gentlemen,  
Your obedient Servant,  
**JAMES W. KIRLEY,**  
Chief Inspector of Nuisances.

TABLE 1.

**Summary of Nuisances Abated and Work done under the Supervision of the  
Inspectors in the Health Department during the Year ending  
December 31st, 1911.**

*Prepared by the Chief Inspector of Nuisances.*

NATURE OF WORK.			By District Inspectors.	By Inspector of Dairies, &c.	By Inspector of Workshops &c.	By Inspector of Tenement Houses, &c.	By Inspectors of Slaughter Houses, &c.	By Inspector of Common Lodging Houses.	By Inspector of Bake Houses.	TOTALS.
Visits and Re-visits ... ... ...	36980	2875	2685	3553	19992	272	1138			67495
Drains relaid ... ... ...	422	1	15	3	2			1		444
Do. partially relaid ... ...	698	19	24	18	1			6		766
Sinks, drains, &c., trapped ... ...	1502	32	34	16	5			3		1592
W.C.'s fitted with new pans, &c. ...	965	18	50	75	5			2		1115
Do. Repaired and cleansed ...	248	9	53	55			2			367
Do. fitted with flushing appliances ...	226	15	41	29			3			314
Additional W.C. accommodation ...	16		25				1			42
Premises repaired ... ... ...	543			215	3	5				766
Roofs repaired ... ... ...	489	29	9	70				12		609
Yards, &c., paved, floors repaired ...	1073	49	36	59	7	1	7			1232
Rooms cleansed, papered, &c. ...	1736		335	1180						3251
Passages do. ...	414		18	209						641
Cesspools abolished ... ...	10	11								21
Offensive Deposits removed ... ...	135	70	1	27	15			2		250
Keeping of Pigs, &c., prohibited ...	54	4		13						71
Polluted Wells closed ... ...	14									14
Company's Water provided ...	91	2	3		1					97
Overcrowding nuisances abated ...	46		3	12				1		62
Dairies, &c., improved ... ...		14								14
Workrooms better ventilated ...			11					2		13
Offensive Trades, nuisances abated ...			24							24
Smoke Nuisances abated ...			19				2	1		22
Limewashing, &c., secured ... ...		560			203	76	148			987
Other Nuisances abated ... ...	493	1		21	2	9	50			576
<b>Totals ... ... ...</b>	<b>9175</b>	<b>834</b>	<b>701</b>	<b>2002</b>	<b>244</b>	<b>98</b>	<b>236</b>			<b>13290</b>

No. of Complaints received and attended to	...	...	...	1619
," Offensive trades visited	...	...	...	101
," Smoke observations taken	...	...	...	205
," Times smoke test applied to drains	...	...	...	1522
," Notices served informal	...	...	...	2376
," Formal Notices, and Orders	...	...	...	466
Half-yearly Cleansing Notices served, Common Lodging Houses				77
," " " " " Bakehouses...	...	...	...	148
," " " " " Dairies, Cowsheds, &c.	...	...	...	263
," " " " " Slaughter Houses	...	...	...	194
Yearly " " " " Tenement Houses	...	...	...	254
No. of Visits to houses re infectious disease	...	...	...	5475
," Houses disinfected after infectious disease...	...	...	...	2030
," Articles of Bedding, &c., removed and disinfected	...	...	...	51061
," Do. Do. and burnt	...	...	...	652
Total number of Articles dealt with	...	...	...	51713
Weight of Meat destroyed as unfit for food	49 tons 15 cwt. 3 qr. 10 lbs.			

TABLE 2.

**Summary of Work effected in the Health Department during Twelve Years—1900-1911.**

*Prepared by the Chief Inspector of Nuisances.*

TABLE SHOWING THE NUMBER OF NUISANCES ABATED AND OTHER WORK DONE IN EACH YEAR SINCE 1900.

	1900	1901	1902	1903	1904*	1905	1906	1907	1908	1909	1910	1911
Number of Nuisances abated ... ...	10920	10151	10482	10542	11007	12232	10313	10369	9657	9361	8742	13290
Polluted Wells closed ...	18	19	21	11	8	22	15	8	3	3	5	14
Premises supplied with Co.'s Water ...	78	83	65	47	51	91	50	44	33	34	49	97
Houses disinfected ...	2216	2652	3130	2866	2229	1950	2070	2057	1759	1726	2039	2080
Articles of bedding, &c., disinfected or destroyed ... ...	55807	66626	68330	63919	52813	53488	51026	46137	39841	45286	47444	51713

\*Enlarged City.

TABLE 3.

## HOUSING, TOWN PLANNING, &amp;c., ACT, 1909.

PARTICULARS OF ACTION TAKEN.									
Year.	No. of houses inspected.	Found defective.	No action taken.	Made habitable.	Out-standing at end of year.	Reported as unfit for habitation	Closed.	Closing Orders determined	Demolished.
							Under Order.		
1910	611	402	209	235	94	44	18	56*	—
Houses outstanding end of 1910 :—									
1911	1351 and 2 rooms.	1019 and 2 rooms.	332	794	118	94 and 2 rooms.	72 and 2 rooms.	38**	3
TOTAL	1962 and 2 rooms.	1421 and 2 rooms.	541	1106	—	138 and 2 rooms.	106 and 2 rooms.	95	3
								—	60

\* Includes 1 house in good condition.

\*\* Includes 3 houses which were inspected in 1910.

TABLE 4.

	DAIRIES AND MILKSHOPS.			COWSHEDS.	
	Number Inspected.	Defects Found	Dis- continued.	Number Inspected.	Defects Found
1890	545	157	100	35	19
1891	858	472	115	36	13
1892	1805	285	108	Number of Inspections. 1173	33
1893	1751	161	126	1069	45
1894	1880	189	56	1089	41
1895	1964	145	53	1587	31
1896	1972	136	62	2426	39
1897*	2058	97	50	2063	55
1898	2075	121	65	2466	19
1899	2187	101	73	2499	33
1900	2142	43	78	2347	30
1901	1964	89	120	2184	33
1902	1968	78	100	2620	31
1903	1809	72	93	2049	39
1904†	1558	117	100	2340	36
1905	1476	140	39	2453	37
1906	1476	83	97	2340	38
1907	1471	107	47	2379	40
1908	1450	72	20	1875	13
1909	1100	41	27	1114	12
1910‡	937	38	14	340	25
1911	2342	76	37	533	20

\*City enlarged in November, 1897

†City enlarged in October, 1904.

‡From June only.

**City of Bristol.****FACTORY AND WORKSHOP ACT, 1901.**

REPORT OF THE MEDICAL OFFICER OF HEALTH ON THE  
ADMINISTRATION OF THE ACT IN THE CITY OF BRISTOL  
DURING THE YEAR 1911 (Sec. 132, F. & W. Act, 1901).

**Workshops.**

The Factory and Workshop Act (1891) transferred the Sanitary control of "Workshops" and "Workplaces" from the Inspector of Factories to the City Council acting as the Urban Sanitary Authority.

A special Inspector of Workshops was appointed, Workshops were at once placed on the Register and inspected, and this control has been continuously exercised since its commencement up to the present. Upon the extension of the City in 1897, a second special Inspector of Workshops was appointed ; in October, 1910, one of these Inspectors was transferred to District work. The progress of the work year by year, is shown in the following table :—

TABLE 1.

## CITY OF BRISTOL.

Workshops.  
Showing particulars in regard to the Inspection of Workshops since 1891.

Year,	Population of City.	No. of Workshops on Register.	No. of Nuisances abated.	Visits & Revisits.	Particulars sent to H.M. Inspector.	Communications received from H.M. Inspector.
1892	223,592	134	215	970	—	5
1893	225,028	349	568	2377	303	15
1894	226,578	584	644	2188	128	18
1895	228,139	764	558	1978	29	32
1896	230,623	881	578	2456	10	35
1897	232,242	1042	660	2674	14	19
<b>CITY ENLARGED.</b>						
1898	316,900	1123	1203	4943	16	21
1899	320,911	1602	1117	4494	37	16
1900	324,973	1800	1004	4263	13	15
1901	329,086	1846	1005	4875	12	25
1902	334,632	1872	1187	5480	21	62
1903	338,895	1532	1110	5885	39	71
1904	343,204	1537	1237	5563	45	88
<b>CITY ENLARGED.</b>						
1905	358,515	1611	1366	4973	25	52
1906	363,223	1652	1058	5141	14	37
1907	367,979	1611	1305	5224	36	63
1908	372,785	1740	1306	5595	19	50
1909	377,642	1852	1154	5947	12	41
1910	387,511	1874	1325	5443	12	14
1911	357,509	1483	701	2685	8	22

The details of work secured during the year 1911 are shown in the following table:—

TABLE 2.                   Workshops.           CITY OF BRISTOL.

Work secured by the Special Inspector of Workshops, etc., in the City of Bristol, during the year 1911.

Total Visits and Re-visits	...	...	...	2685
Total Nuisances abated ...	...	...	...	701

PARTICULARS OF NUISANCES DEALT WITH.

DRAINAGE AND FILTH NUISANCES.	Drains entirely relaid	...	...	15
	Drains partially relaid	...	...	24
	W.C.'s fitted with new pans	...	...	50
	W.C.'s cleansed and amended	...	...	53
	W.C.'s fitted with flushing appliances	...	...	41
	Additional W.C. accommodation provided	...	...	25
	Sinks, Drains, etc., trapped	...	...	34
STRUCTURAL DEFECTS	Offensive Deposits removed	...	...	1
	Defective Roofs repaired	...	...	9
LIMEWASHING AND CLEANSING.	Yards paved or Floors repaired	...	...	36
	Workrooms and Passages, limewashed and cleansed	...	...	353
VENTILATION AND OVERCROWDING.	Nuisances from overcrowding abated	...	...	3
	Better Ventilation secured in Work-rooms	...	...	11
WATER SUPPLY.	Company's Water provided	...	...	3
	Other Nuisances	...	...	43

**Home Work.**

(SECS. 107 TO 115).

The following table shows particulars with regard to the lists of Outworkers received during the year 1911. The lists are kept by the Town Clerk, who forwards to the Medical Officer of Health the names and addresses of those Outworkers who reside within the District of the City of Bristol.

**TABLE 3.      Workshops.      CITY OF BRISTOL.**

**OUTWORKERS.**

Showing Lists received during the year 1911.

Nature of Employment.	February Lists.		August Lists.	
	No. of Lists.	No. of Outworkers.	No. of Lists.	No. of Outworkers.
Boot and Shoe Making	29	360	16	94
Cabinet Making, etc.	1	4	1	3
Manufacture of Wearing Apparel	55	1279	22	929
Other Trades ...	4	49	—	—
	89	1692	39	1026

Upon receipt of the lists of Outworkers the Workshop Inspector visits the premises as far as possible in conjunction with his work under the other provisions of the Act. The number of premises visited in 1911 was 421, and five sanitary defects were found to exist, which were rectified, under written notice. In addition to the defects referred to above, the premises of 101 outworkers were lime-washed and cleansed at the verbal request of the Inspector. In 29 instances it was found that wearin-

apparel was being made, cleaned, or repaired in the houses where one of the inmates was suffering from an Infectious Disease (See. 110), but no action was required to be taken under this Section. The wearing apparel was in each instance disinfected before return to the factory. All such conditions as are specified in Sections 109 and 110, have, since the adoption of the Notification Act in 1890, been most carefully guarded against by a complete system of administering the Notification and Public Health Acts, in which these questions have always received special attention.

## Factory and Workshop Act, 1901.

### Inspection of Bakehouses for the year 1911.

#### REPORT OF THE INSPECTOR IN RESPECT OF WORK DONE UNDER THE PROVISIONS OF THE ABOVE ACT, WITH PARTICULARS OF THE CONDITIONS FOUND.

The number of Bakehouses in operation at some period of the year was 334, or six less than in 1910.

Inspection operations under the provisions of the Act of 1884 were commenced in that year, and have regularly continued since.

This year 1,138 Bakehouses have been inspected, which was 147 less than in 1910, in consequence of more time having to be given to the Port Department.

Taken as a whole the general condition of Bristol Bakehouses have considerably improved, although an increased number of defects have been noted, chiefly through more prompt compliance with the lime-washing regulations, and stricter attention to general cleaning operations being enforced, and an increased number of repairs to roofs, paving, floors, etc., were called for.

Improved appliances which do away with much personal handling, and shorten the hours of labour, are being frequently introduced, and much diminish the inhalation of flour dust trouble, thereby securing better health conditions.

The number of Bakehouses that come within the provisions of the Underground Bakehouse Act, in use is the same as last year, *i.e.* 29, but only 16 of these are totally underground, the remainder being only partially so.

All the notices, numbering 210, were complied with, or were in hand at the end of the year, or have since been attended to.

I am, Gentlemen,

Yours obediently,

S. O. DIMOND,

Inspector of Bakehouses.

**Workshops.****TABLE 4. CITY OF BRISTOL.  
BAKEHOUSES.**

Showing defects found and remedied in each year since bakehouse inspection was instituted.

Year.	Particulars.	Total.
1884	Total contraventions found in respect of cleansing, lime-washing, defective drains, repairs, and defective ventilation.	342
1885	Ditto	244
1886	Ditto	96
1887	Ditto	132
1888	Ditto	69
1889	Ditto	65
1890	Ditto	89
1891	Ditto	80
1892	Ditto	71
1893	Ditto	36
1894	Ditto	57
1895	Ditto	74
1896	Ditto	57
1897	CITY ENLARGED IN 1897.	140
1898	Ditto	178
1899	Ditto	163
1900	Ditto	172
1901	Ditto	151
1902	Ditto	198
1903	Ditto	192
1904	CITY ENLARGED Including special work required in underground bakehouses.	250
1905	Ditto	230
1906	Ditto	232
1907	Ditto	281
1908	Ditto	205
1909	Ditto	246
1910	Ditto	201
1911	Ditto	232

TABLE 5.      **Table of Bakehouse Inspection for the Year.**  
 1911.      With particulars of Condition, Contraventions, Action taken, and Results.

	Total number of inspections and visits	...	...	...	...	...	1138
Number of Bakehouse premises found to be in good or passable order and condition Ditto	...	...	...	...	...	928 210	
not in satisfactory condition from one of the undermentioned defects							

PARTICULARS OF DEFECTS AND CONTRAVENTIONS.

Total Defects.	Nature of Defects, etc., and Improvements secured.	PARTICULARS OF DEFECTS AND CONTRAVENTIONS.		Description of Notices Complied With.
		Total Notices	210	
232	Contraventions of lime-washing regulations Ditto General cleaning Bakehouse premises with defective drainage Ditto with defective floors, roofs, paving, or other dilapidations Removal of Manure accumulations and other Nuisances Waterclosets reconstructed and Flushed Traps put in (Intercepting) Smoke Nuisance Ventilation improved	148 48 7 21 2 2 2 1 1 2 ...	210	Informal Notices given to abate nuisances, effect repairs, or comply with Regulations Various Written Notices served and complied with, or under way at end of the year ...
				154 56 56
232	Two drains also were tested and one additional W.C. was provided.	232	210	210
				S. O. DIMOND, Inspector.

**FACTORY ACT.****HOME OFFICE FORM****Annual Report of the Medical Officer of Health for the year 1911, for the City of Bristol,**

on the administration of the Factory and Workshop Act 1901, in connection with

**FACTORIES, WORKSHOPS, WORKPLACES  
AND HOMEWORK.**

**I.—INSPECTION OF FACTORIES, WORKSHOPS AND WORKPLACES.**

Including Inspections made by Sanitary Inspectors or Inspectors of Nuisances.

Pr. mises. (1)	Number of		
	Inspections (2)	Written Notices (3)	Prosecutions (4)
FACTORIES .. .. .. (Including Factory Laundries)	380	15	None.
WORKSHOPS .. .. .. (Including Workshop Laundries)	1884	40	None.
WORKPLACES .. .. .. (Other than Outworkers' premises included in Part 3 of this Report)	None.		
<b>TOTAL.</b> ..	<b>2264</b>	<b>*55</b>	<b>None.</b>

\*NOTE.—The great difference in the number of Notices is due to the fact that in the Report for 1910 Verbal Notices were inadvertently included with the Written Notices.

During 1911, 646 nuisances and defects were remedied under verbal notice.

2—DEFECTS FOUND IN FACTORIES, WORKSHOPS AND WORKPLACES.

Particulars. (1)	Number of Defects				Number of Prosecutions (5)
	Found (2)	Remedied (3)	Referred to H.M. Inspector (4)		
<i>*Nuisances under the Public Health Acts :—</i>					
Want of cleanliness .. . .	353	353			
Want of ventilation .. . .	11	11			
Overcrowding .. . .	3	3			
Want of drainage of floors .. . .	None	None			
Other nuisances .. . .	165	165			
<i>†Sanitary Accommodation :—</i>					
Insufficient .. . .	25	25			
Unsuitable or defective .. .	144	144			
Not separate for sexes .. .	—	—			
<i>Offences under the Factory and Workshop Act :—</i>					
Illegal occupation of underground bakehouse (S. 101) .. . .	None	None			
Breach of special sanitary requirements for bakehouses (SS. 97 to 100) .. .	None	None			
Other offences .. . . .	—	—			
(Excluding offences relating to outwork which are included in Part 3 of this Report)					
Total .. . . . .	701	701	8	None	

\* Including those specified in Sections 2, 3, 7 and 8, of the Factory and Workshop Act as remediable under the Public Health Acts.

† Sec. 22 of the Public Health Acts Amendment Act, 1890, is in force in the City, the Standard conforms to the Memorandum.

## 3.—HOME WORK.

NATURE OF WORK.*	OUTWORKERS' LISTS, SECTION 107.								OUTWORK IN UNWHOLESOME PREMISES, SECTION 108.				OUTWORK IN INFECTED PREMISES, SECTIONS 100, 110.			
	Lists received from Employers.				Prosecutions.				Instances.		Notices served.		Prosecutions.		Instances.	
	Sending twice in the year.		Sending once in the year.		Notices served on Occupiers as to keeping or sending lists.		Failing to keep or permit inspection of lists.	Failing to send lists.	Instances.	Notices served.	Prosecutions.	Instances.	Orders made (S. 110).	Prosecutions (Sections 109, 110).		
	Lists. †	Outworkers. †	Lists.	Outworkers.	Lists.	Contractors	Workmen.	Lists.	Contractors	Workmen.	Instances.	Notices served.	Prosecutions.	Instances.	Orders made (S. 110).	Prosecutions (Sections 109, 110).
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	
Wearing Apparel—Making, &c.—																
(1) Tailoring .. .. ..	34			1639	35		385							20		
(2) Corset-making .. .. ..	6			146	2		38							1		
(3) Boot-making .. .. ..	18			127	27		327									
Wearing Apparel—Washing .. ..														8		
Furniture and Upholstery .. .. ..	2			7	—		—									
Sacks and Bag-making .. .. ..					1		9									
Brush-making .. .. ..					3		40									
TOTAL .. ..	60			1919	68		799	112	None.	None.	None.	None.	None.	29	None.	None.

\* If an occupier gives out work of more than one of the classes specified in column 1, and subdivides his list in such a way as to show the number of workers in each class of work, the list should be included among those in column 2 (or 5 as the case may be) against the principal class ONLY, but the outworkers should be assigned in columns 3 and 4 (or 6 and 7) into their respective classes. A footnote should be added to show that this has been done.

† The figures required in columns 2, 3 and 4 are the TOTAL number of the lists received from those employers who comply strictly with the statutory duty of sending two lists each year and of the entries of names of outworkers in those lists. The entries in column 2 must necessarily be EVEN numbers, as there will be two lists for each employer—in some previous returns odd numbers have been inserted. The figures in columns 3 and 4 will usually be (approximately) double of the number of individual outworkers whose names are given, since in the February and August lists of the same employer the same outworker's name will often be repeated.



## 4.—REGISTERED WORKSHOPS.

Workshops on the Register (s. 131) at the end of the year. (1)	Number. (2)
Important classes of workshops, such as workshop bakehouses, may be enumerated here:—	
Workshops .. .. .. ..	1483
Workshop Bakehouses .. ..	334
Total number of workshops on Register ..	1817

## 5.—OTHER MATTERS.

Class. (1)	Number. (2)
Matters notified to H.M. Inspectors of Factories:—	
Failure to affix Abstract of the Factory and Workshop Act (S. 133) .. .. ..	8
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Act (S. 5) .. .. ..	22
Other .. .. .. .. ..	None.
Underground Bakehouses (S. 101):—	
Certificates granted during the year ..	None.
In use at the end of the year—	
Underground .. .. 18	
Partially underground .. 11	29

NOTE.—The Factory and Workshop Act, 1901 (s. 132), requires the Medical Officer of Health in his Annual Report to the District Council to report specifically on the administration of that Act in workshops and workplaces, and to send a copy of his Annual Report, or so much of it as deals with this subject, to the Secretary of State (Home Office). If the Annual Report is presented otherwise than in print, it is unnecessary to include in the copy sent to the Home Office the portions which do not relate to factories, workshops, workplaces or homework. The duties of Local Authorities and the Medical Officer of Health under the Act of 1901 are detailed in the Home Office Memorandum of December, 1904. A further Memorandum, on the Home Work Provisions of the Factory Act, was issued to all District Councils and Medical Officers of Health in October, 1906.

D. S. DAVIES, M.D.,  
Medical Officer of Health.



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